

EDITORIAL INDEX—PAGE 2

JANUARY 1951

CCJ COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS



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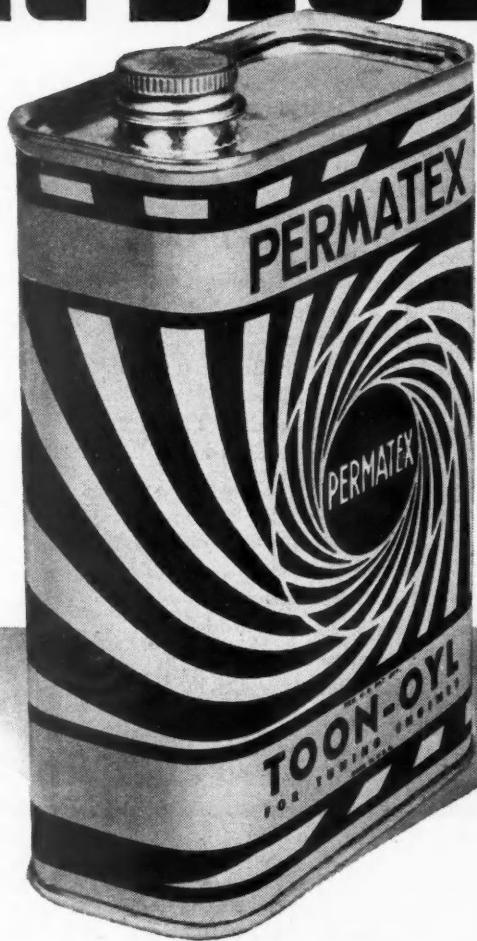
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JOURNAL



READER DIGEST

Attitude . . . Key To Accidents

Many fleet operators refer to "attitude" in the same manner as psychology used to be referred to years ago. It is vaguely associated with human behavior. Here is one of the best, if not the best, of studies on probably the least understood phases of fleet safety training and supervision. It's "Must" reading for all interested in reducing accidents and the intelligent handling of those "problem children"—accident repeaters. See Page 51.

Canadian Fleet's New \$500,000 Home

There are many unusual features in this new building that should be of great interest to truck fleets and bus properties. Not the least are the walls of the vehicle storage area. They are just plain walls. But that fact cut the construction bill, reduces maintenance and should make the area much easier to heat. This is just one of the new features. Many others are described on Page 52.

Washing Innovations Save Time

Bus equipment superintendents say it's no trick to have sparkling clean buses. All that is needed, they say, is an unlimited amount of funds and manpower. East St. Louis City Lines introduced some innovations that save five man-hours per bus and do a better job—that's why its buses look so clean at all times and that's why the cost is low. For details see Page 56.

Driver Safety Co-op

Cooperation between various elements of the Teamsters Union and two state truck associations has reached new highs in Philadelphia and Los Angeles. Object: greater safety on the highway. For complete details see page 62.

State of the Nation

Don't miss this month's expanded Washington Runaround (page 37) and Detroit Dispatch (Page 31) covering the effect of Mobilization on highway transportation as viewed from these strategic points.

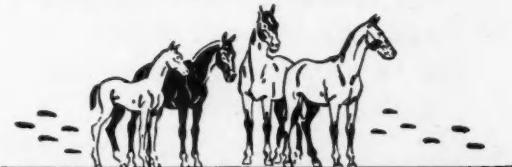
LP Gas—Principles of Operation

You may know about the advantages of liquified petroleum fuel for motor vehicles . . . but do you know how this type of fuel is used in the engine? Here is an illustrated article which will explain in detail the operating principles of LP Gas conversion components. See Page 70.

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COMMERCIAL CAR JOURNAL, January, 1951

GO DOWN



Lubricants and Fuels FOR THE TRUCKING INDUSTRY

CONFERENCE CORNER

PRESENTING FACTORY ENGINEERS' VIEWS ON TIMELY SUBJECTS OF INTEREST TO FLEETS

Subject: Oil Analysis

Question: Is Oil Analysis a Reliable Index to Engine Condition?

In August, representatives from two laboratories discussed the merits of using laboratory tests as a means of providing an accurate picture of the engine mechanical condition. In this month's feature two oil filter manufacturers provide their views on this controversial question. Next month CCJ will publish an article developed by an oil refiner to show Pure Oil Company's reaction to the use of an oil analysis in providing a guide to engine performance and efficiency.

W. S. James, of Fram Corp. says . . .

"It is our opinion that an oil analysis will be of assistance in determining when oil should be changed. The results of the analysis must be used with considerable judgment and cannot be used alone with impunity.

"If a systematic analysis of the oil in an engine is made and there are very rapid changes in the analysis in short periods of time, this change in analysis may be an indication of a change occurring in the engine or in operating conditions. If the operating conditions are known, it is possible to estimate with reasonable accuracy whether the analysis indicates a change in the engine.

"It is very probable that haphazard analysis of oil from a fleet of engines will be of little value in determining engine condition. A systematic examination of engine oil can be as helpful as a systematic reporting of engine condition as observed by drivers or a superficial although systematic examination of the mechanical condition of the car or truck. If unfamiliar noises develop in the engine, it is certainly an indication that something has changed that should be investigated or corrected. Also, if there is a sud-

den change in the character of the oil in the engine, it should call for an investigation and possible correction.

"If oil analysis is used in this manner, it will probably be of benefit to the fleet operator because it will indicate to him when something is changing and when an investigation should be made to correct a possible difficulty. If it is a haphazard procedure, it will probably prove of little or no value. If an oil analysis is systematically carried out, it will, when combined with the normal fleet experience of the operator, tell when the most economical time for oil changes has been reached, as well as when mechanical conditions should be examined."

R. C. Beckett, of Walker Mfg. Co. says . . .

"We believe that if the field tests are run under close laboratory control, certain definite trends in engine condition can be deduced. We don't believe it is practical to be able to pin point the cause of a particular set of conditions found in an engine from an oil analysis alone. A series of oil analyses can be of help in determining engine condition in the hands of a skilled operator.

"We would like to stress, however, that test control is essential because of the many variables encountered. Taking oil samples as an example, a sample taken that is not truly representative of the oil in the engine or a sample taken when the oil level is down a quart or so, or shortly after a quart or so of fresh oil has been added can lead to widely varying deductions on oil analysis.

"Oil analysis in combination with other standard methods of trouble shooting can be a useful tool, but of itself, in our opinion, is not infallible."

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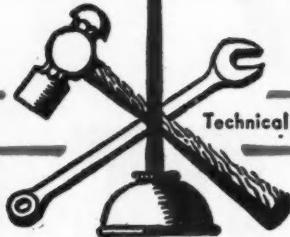


TRANSPORT SPARK PLUGS

At Your Service

By M. K. SIMKINS

Technical Editor, Commercial Car Journal



When Removing Silicone Polishes

Many of the new auto polishes contain liquid silicones, and while this material provides ease of application, high gloss and high durability, it also introduces complications when repainting is necessary. Since the surface is incompatible with paint, it must be completely removed before the application of either lacquer or enamel.

Tests made by Dow Corning Corp. show that there are only two minor departures from standard practice in effectively removing the new polish preparatory to repainting. First, disposable cloths soaked in solvent must be used to prevent picking up and transferring the residual silicone film. Second, the surface should be cleaned before bumping and grinding to avoid the possibility of grinding the silicone film into the metal surface. Observance of these rules will permit you to live with the new polishes and take advantage of their improvements without sacrificing time and quality when repainting.

Generator Brushes Deserve Respect

There is a tendency in some fleet shops to pick up generator brushes just about anywhere, without regard for the particular job they will be called upon to do. Many times they are cut down to fit generators of entirely different specifications. These misfits will not give the long life, quietness, efficiency which can be expected from the right brush for the job.

There are four general classifications of brushes: the carbon, graphite, metal-graphite, electro-graphitic, each providing certain advantages over others for a given application. Resistance, hardness, composition and uniformity is engineered into the good brush after extensive laboratory tests by the manufacturer. Care has been taken that good contact is made between the brush material and the pigtails to prevent excessive heat from resistance.

It is mandatory, then, that only the properly engineered brush be installed, that stock be maintained for each make and model specified by the vehicle manufacturer, that new brushes be fitted with precision if proper performance and life is attained. Experimentation with substitutes is expensive.

Foaming Gear Oils

If you are having trouble with gear box leakage due to excessive foaming of the lubricant, check the following conditions in a move to find the trouble.

Water contamination is one of the most common causes of heavy foam. Leaky gaskets, worn shaft seals or defective vents will contribute to this condition by permitting additional air to be drawn into the housings. Low lubricant level aggravates the condition by permitting the gears to aerate the lubricant.

Heavy oil has more tendency toward foaming due to the fact that excessive viscosity tends to hold the air bubbles which naturally occur with rotating gears. When other methods fail, a lower viscosity lubricant may correct the condition. And finally, oxidation of the lubricant may be the cause of foam. This may occur after a refilling of the gear box that has not been flushed properly. Unstable oils, or contaminated oils may also be responsible.

It should be emphasized that a certain amount of foaming is present with all lubricants confined to a small area and churned up by rapidly moving parts. In most instances it is not harmful and may even aid lubrication. It is only when foam creates excessive pressures that contributes to leaking housings and seals that the condition becomes serious.

About Sulphur in Diesel Fuels

Operators of diesel equipment have indicated an interest in the apparent increase in high sulphur crudes in the U. S., and are critical of the effect of a high sulphur content on diesel operation. Here is what W. S. Mount, of Socony-Vacuum, had to say about sulphur at a recent SAE National Transportation meeting in N. Y.

"Sometimes (sulphur) seems harmless; at others it appears to accelerate wear and increase deposits. Because it is a popular subject, the impression is gained that all users and all engines must guard against the effects of sulphur. That is not necessary. First of all, the bulk of the diesel fuel sold in U. S. is below approximately .5 per cent by weight of sulphur and therefore considered satisfactory.

"Automotive diesel fuels today fall either in the low sulphur category, below .5 per cent by weight, or in high sulphur, .5 to 1.0 per cent by weight. Through selection of crudes and volatility control, the refiners have maintained the bulk of diesel fuel at sulphur content below .5 per cent. Many diesel specifications, however, permit sulphur up to .8 to 1.0 per cent and the supplier should be consulted for a figure on the actual amount affecting individual fleets."

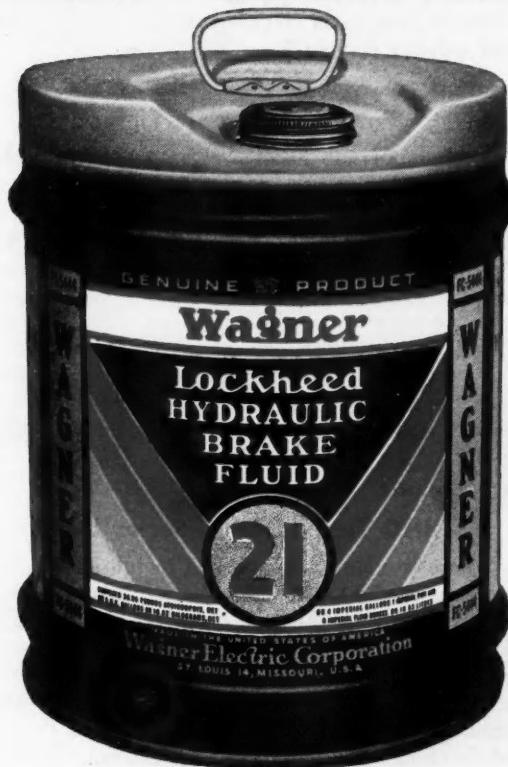
(TURN TO PAGE 14, PLEASE)

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At Your Service

Continued from Page 10

"Hundreds of tests have been run to measure the influence of sulphur on diesel operation. Results differ with engine design and operating conditions. Some data show low sulphur fuel the best; other data show no effect on sulphur increases. Where a trend of increasing trouble at high sulphur is evident, it is more apparent at high load factors. . . . Engine design and operating conditions appear to have a significant effect on wear and deposit reaction to variation in fuel sulphur content."

Ford Autothermic Pistons

The autothermic pistons as used now on both the 6- and 8-cylinder Fords are said to insure smoother starting and quieter operation at low temperatures. A more constant heat dissipation throughout the piston does prolong piston ring life. The design of the piston reduces the tolerance between the piston and the cylinder bore from .0018-.0023 to .0006-.0012. This eliminates piston slap and rough engine performance due to rocking pistons at starting or before normal operating temperatures have been reached. Fitting procedures and engine break-in recommendations are the same with the new piston.

IHC Tie Rod Ends, Series L-210

Where trouble is experienced in lubricating the tie rod ends on the L-210 series chassis, it is possible that the wrong fitting has been installed. If the grease fitting with a special vent is used, it should be replaced with fitting IH No. 109461. Short fittings must be used here to eliminate the possibility of the seat bottoming against the parts in the tie rod ends and thus close off the opening in the end of the fitting.

L-190, LF-190 Tire Interference

Where interference is encountered between the front axle air brake chamber hose and the front tire when wheels are turned to the extreme right or left, IHC recommends turning of the elbows in the front air brake chambers approximately 45 deg. towards the frame rail.

Plymouth Engine Miss

If the spark plugs have been cleaned, the gaps set to .035 and the engine still misses, carefully check the primary and secondary circuits of the ignition system. Clean all wire connections between the ignition coil, the distributor, the spark plugs and the starter ignition switch. It is especially important to remove all corrosion inside the sockets of the terminal towers on the ignition coil and the distributor cap.

Stuck Rings Are Stickers

One of the most annoying—and expensive—problems in most fleet operations is sticking piston rings.

Ring mileages can be brought into the 50,000-mile and over class in most operations—unless clogging of the grooves renders them unfit for holding gases and oil. Neither the problems nor the remedies are new, but a review of suggested methods of overcoming stuck rings may be in order.

The obvious cause of sticking rings is insufficient clearance between side ring and the land. If they have been fitted properly, reduction of clearance is brought about chiefly through the formation of varnish, gum or lacquer. This formation is a product of the chemical reactions in the lubricating oil and the exhaust gases at high temperature.

The factors influencing the formation are the amount of fuel and oil present at the rings, the type of oil used, the type of gasoline, the mechanical condition of the engine and the engine temperature. High speeds, heavy loads and excessive idling contribute to the build-up since these conditions affect the amount of fuel and oil used and influence the rate at which the rings must scrape oil from the cylinder walls.

If you are having more of your share of troubles from ring sticking, check engine operating temperature. Simply noting the water temperature meter is not always indicative of the heat present since hot spots in the block and other internal conditions may still be creating high temperatures at the pistons. In this respect lean fuel mixtures, lugger engines, restricted cooling and detonation contribute to high combustion chamber temperatures with resultant oil breakdown.

It is a well-known fact that lean mixtures burn hot, but shops may cut mixtures lower than 12:1 in a move to attain better fuel economy. Lean mixtures should be avoided in order to keep piston head temperatures down.

Engine lugger permits increased temperatures when the normal quantity of fuel is being burned, yet the cooling system, fan, etc., are not able to function efficiently due to the slow rpm. A word to the drivers should overcome this trouble.

Detonation may result from poor quality fuel, improper spark timing, incorrect fuel mixtures, all of which induce excessive engine temperatures due to the fact that the fuel is burning too rapidly. Timely tune-up practices, careful attention to spark adjustment and intelligent selection of fuel suited to the engine and the operating conditions should eliminate this trouble.

Another factor contributing to high piston temperatures with resultant oil deterioration is high air temperature at the carburetor. In many operations fleets have located the air cleaner or just an extension of the pipe outside the cab to insure clean, cool air to the engine. Air scoops to the engine compartment, too, have reduced air intake temperature and the effects of overheating.

The oil itself should be considered as a factor involving high engine temperatures. If the lubricant is to dissipate heat from the combustion chamber, as it does, it must be cooled and vented properly at the crankcase. Adequate ventilating systems, periodic cleaning of the exterior surface of the pan, and maintenance of proper oil pressure will do much to improve the situation. If, however, ring sticking persists, oil coolers can be installed.

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E D I T O R I A L C O M M E N T

Highway Transportation—Giant or Pigmy?

ONCE again "Peace on Earth" has given way to the myriad complexities of mobilization, allocations, shortages, controls, evacuation plans and emergency shipments. Once again the need is clear and the call is loud for united action of the home front including maximum utilization of the nation's transportation network.

How can such maximum efficiency be best achieved as far as highway transportation is concerned? It seems to us the answer lies largely in the strength of its ASSOCIATIONS. Let's look at the record.

At the moment there are approximately 8,300,000 civilian-owned trucks and at least 200,000 revenue buses on U. S. highways. Together they employ more than 5,000,000 men; more than in any industry the world has ever known except farming.

But is this great industry a giant, or merely an aggregation of pygmies? The record shows that about half the vehicles are individually owned and nearly 80 per cent are in fleets of less than eight trucks. There is nothing wrong with that. Individual enterprise has always been the backbone of the American economy. But to serve the nation best, particularly in war, these individuals must be united as a transportation team. Here's just one reason why.

As the nation converts from peace to war, Washington is forced to enter the transportation picture on such essential activities as allocations and controls. Fortunately the industry has an able friend in the person of ICC Commissioner James K. Knudson who, as chief of the Defense Transportation Administration, is the "Claimant agent" for the needs of highway transportation.

To do his job he must have FACTS . . . strong

impartial facts for the *whole* industry. "Don't come in ones and twos," he has said repeatedly, "but appoint a spokesman and arm him with the facts."

By year's end two such spokesmen had appeared and they were armed with good facts. One was the American Trucking Assns. with a 33-page report fixing the estimated needs of the whole industry for medium and heavy-duty trucks and truck-trailers (see Page 37). The facts were based on a survey of 1000 members. The other was a parallel report on trailer needs from the Truck-Trailer Mfrs. Assn.

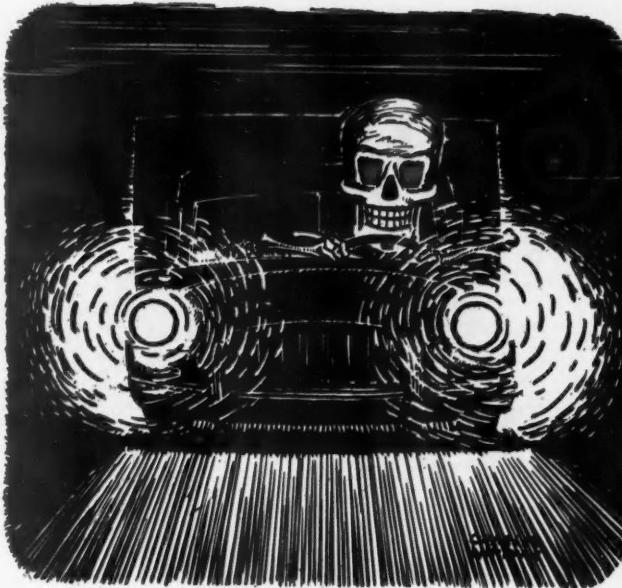
To both groups goes credit for a job well-started. Other reports will follow, including an extensive study of light truck requirements being made by the Automobile Manufacturers Association.

But the point is that these associations—and we're speaking primarily of the user groups, such as ATA, the two bus associations, the National Council, the SAE and, of course, their state and regional affiliates—need the full cooperation of every fleet operator. To use an age old expression: "Was you there, Charlie?" when those 1000 ATA members were counted in the survey? Or were you one of the "ones and twos" who haven't yet begun to fight?

It should be pointed out that COMMERCIAL CAR JOURNAL is an independent publication with no strings attached. It certainly holds no brief for any one association. But we believe it our duty to urge readers to take full advantage of the kind of team work made possible through association activities, and to remind readers of the magnificent job men like Ted Rodgers and other association leaders performed during World War II.

Now more than ever the industry needs to pool its strength to the fullest that it may emerge from the present emergency as a full-grown giant.

Bart Rawson
Editor



Death Rides By Night

Last year over 18,000 people were killed in traffic accidents occurring from dusk until dawn. Surely the dark hours have smeared our black records with the red blood of those poor devils who thought they could see—thought they could drive—thought they could dodge—when they couldn't.

The killing rate per vehicle is four times as high at night as in the daytime. Remember this when you take a dusky chance. Remember that 1. defective lighting, 2. fog, 3. driver fatigue, 4. intoxication, 5. inadequate vision—while important factors in driving at any time—are four times more dangerous after the sun goes down. For these five boos may write your ticket to purgatory if you drop your guard.

Glaring headlights, cockeyed lamps, pooed out bulbs multiply your chances of running over somebody or running them into the nearest ditch. Unless you have the eyes of a cat, you cannot safely ply the same speeds at night that might be considered safe in daylight. So cut your speeds at least 10 per cent—and keep your guard up.

Overdriving headlights is undertaking a big risk. Your lights, when adjusted properly, should enable you to detect persons and

objects 350 feet or more ahead of you. But —don't forget—the average driver requires 128 feet to come to a complete stop from 40 mph. That doesn't give you much roadway for a margin of error. At 40 mph you will reach that spot 350 feet away in just about 6 seconds. Can you stop in time?

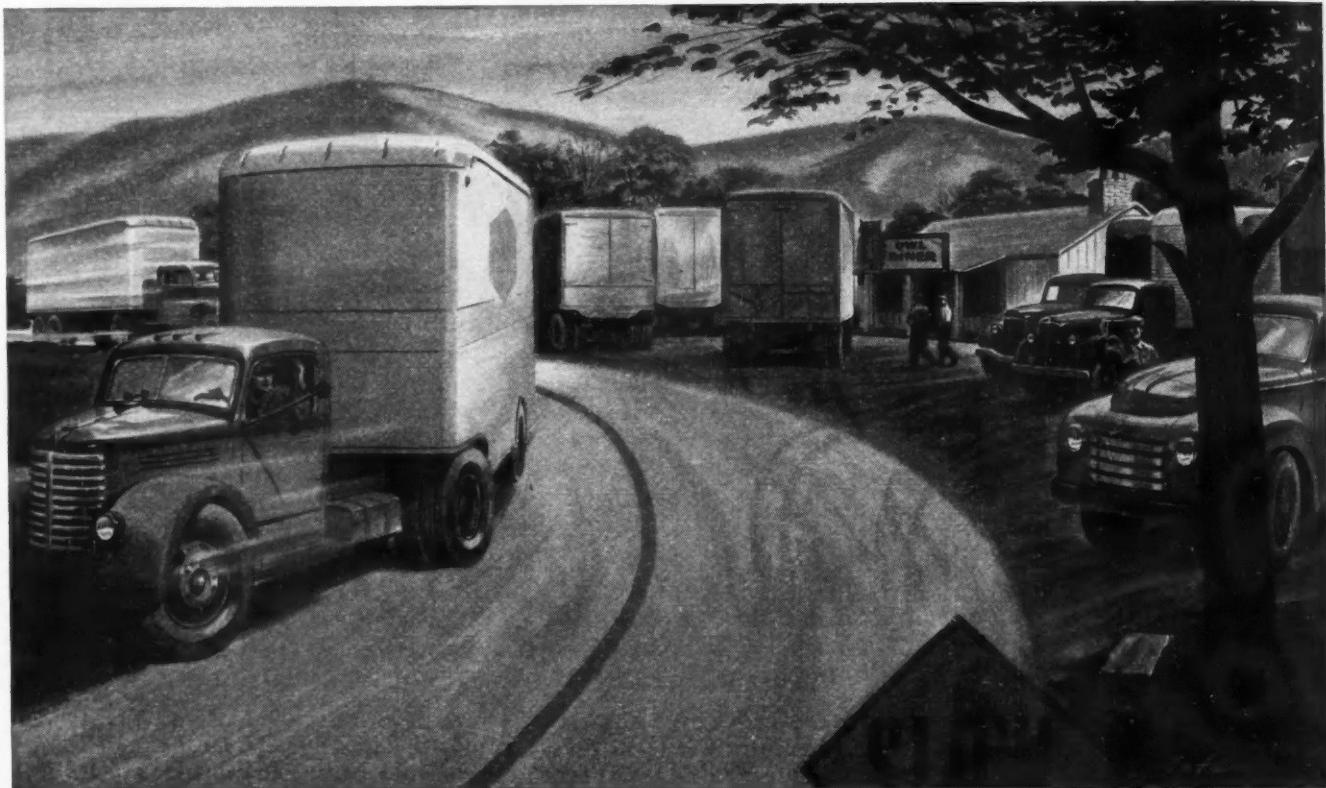
Unless you are on your toes, sober and alert to the added emergencies arising with darkness, you can expect to come out second best in an argument with obstructions to vision. Night driving is harder on the nervous system and introduces added eye strain, whether you realize it or not. And fatigue dulls alertness.

Fog, rain, careless pedestrians and drunken drivers are all out to up the night accident rate. But when you get behind the wheel, it becomes your job to negotiate all roads safely—slow down, duck, stop, dim your lights, use the best lights for the conditions, add extra driving courtesy—to offset the added hazards of the night.

Yes, Death rides by night. He may wink at a traffic violation or a neck-break speed when you can see to duck him, but he is out to close a shady business deal when the sun goes down and when . . .

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THIS PICTURE look familiar? Yes, the fellows who drive the big ones like to get together at the "Coffee Stop." Here they talk a lot of shop. Chances are you may overhear them discussing steering.

If you should, listen closely because these boys "know their way around." They expect ease of steering, positive steering, and that all important feel known as *road-sense*.

Ross Cam and Lever gears provide *all* these desirable qualities—hence the *overwhelming* preference for Ross equipped units.

ROSS GEAR AND TOOL COMPANY • LAFAYETTE, INDIANA

CCJ REPORTS

on News of the Industry

Trailer Makers Meet Jan. 21-23

The Truck Trailer Manufacturers Association meets Jan 21-23 at the Edgewater Gulf Hotel, Edgewater Park, Miss., in an annual convention which already indicates a successful event. ATA President Leland James, of Consolidated Freightways, is a featured luncheon speaker. James K. Knudson has been invited to speak to the group, and Col. J. E. Engler from the Automotive Branch of the Ordnance Dept. will discuss military requirements. The National Production Authority will be represented by George R. Davis, of the Transportation Equipment Div.

SAE Annual Meet at Detroit

As this issue goes to press the Society of Automotive Engineers is preparing for a gala show in its annual meeting held in Detroit, Jan. 8-12. Highlight of the five-day meeting will be the annual meeting dinner on Wednesday, when W. Stuart Symington, Chairman, National Security Resources Board will appear as the principal speaker. Henry Ford II will serve as master of ceremonies.

Maryland Road Test Ends

The trucks stopped rolling at La Plata, Md., on Dec. 23, 1950. Thus ended Road Test One-MD, the first of a series to be conducted by the Highway Research Board to determine the relative wear on existing highway surfaces of various axle loads. As this issue goes to press, the test crew is making extensive tests of concrete cores, soil, and pavement strains and deflection—all of which will bear material on the first

overall report which will be presented at an open meeting of the Highway Research Board in Washington on Jan. 9, 1951.

As was expected, the heavier axle loads produced more cracks than did the lighter loads on the existing pavement. But also as expected, there was a definite relationship between sub soil and pavement behavior. The more granular the sub soil, the better the performance. Full details will be reported in a forthcoming issue of CCJ.

New ICC Safety Proposals

The first major revision of the ICC Motor Carrier Safety Regulations since they became effective 11 years ago has been made public by the Commission. The proposed 45,000 word revision is highlighted by one basic premise—placing of greater responsibility on individuals, principally drivers, but not excluding operators. Originally, the ICC had set Dec. 29, 1950, as the deadline for submitting written views on the revision, but this has been extended to March 1.

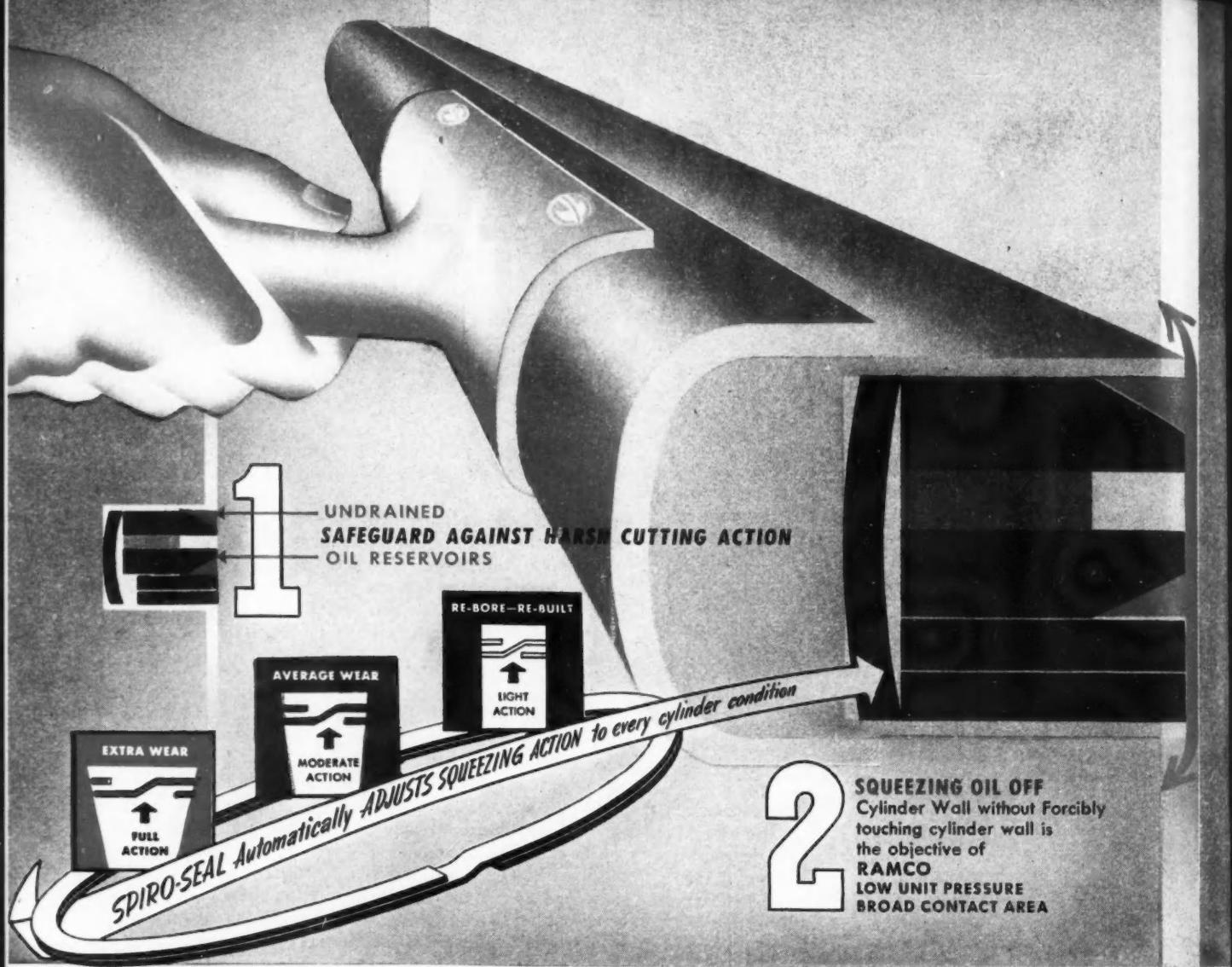
The proposed changes include: (1) annual physical examinations of drivers; (2) persistent violations, a bad accident record, or a combination of both would bar a driver from employment; (3) strict observance of speed limits in scheduling; and (4) driver inspection of equipment. There are also many mechanical requirements such as: two windshield wipers; more strict brake requirements; rear wheel flaps; and rear bumpers for all vehicles.

The changes will affect all private, contract, and common carrier trucks, trailers and buses. However, they will not become effective for some time and are

(TURN TO PAGE 158, PLEASE)

DATES and DOINGS

- JAN. 17-19—American Transit Assn. Regional Meeting, Hotel Texas, Fort Worth, Texas.
JAN. 19-20—New Mexico Motor Carrier Assn. Annual Convention, Hilton Hotel, Albuquerque, N. M.
JAN. 21-23—Truck-Trailer Mfrs. Assn. Annual Convention, Edgewater Gulf Hotel, Edgewater Park, Miss.
JAN. 22-24—American Transit Assn. Regional Meeting, Thomas Jefferson Hotel, Birmingham, Ala.
FEB. 1—New York State Motor Truck Assn. Annual Dinner, Hotel Statler, New York, N. Y.
FEB. 1-2—National Council of Private Motor Truck Owners Annual Meeting, Hotel Statler, Washington, D. C.
FEB. 1-3—Truck Owners Association of California, Annual Convention, Palace Hotel, San Francisco, Cal.
FEB. 1-4—Transport Vehicle Show Preventive Maintenance Demonstration, Madison Square Garden, New York, N. Y.
FEB. 5-7—National Truck Leasing System Annual Convention, Sheraton Hotel, Chicago, Ill.
FEB. 8-10—Colorado Motor Carriers Assn. Annual Convention, Cosmopolitan Hotel, Denver, Colo.
FEB. 26-MAR. 2—Sixth Annual Course for Maintenance Supervisors, Pennsylvania State College, State College, Pa.
FEB. 27-28—American Transit Assn. Regional Meeting, Copley Plaza Hotel, Boston, Mass.
MAR. 8—New Jersey Motor Truck Assn. Annual Convention, Essex House Hotel, Newark, N. J.
MAR. 13-16—American Transit Assn. Regional Meeting, Hotel Deshler-Wallack, Columbus, Ohio.
MAR. 19-20—American Transit Assn. Regional Meeting, Hotel President, Kansas City, Mo.
MAR. 21-24—Pacific Automotive Show, Civic Auditorium, Seattle, Wash.
MAR. 24—Arizona Motor Transport Assn. Annual Convention, Westward Ho Hotel, Phoenix, Ariz.
APRIL 3-6—Greater New York Safety Council Annual Convention, Hotel Statler and Governor Clinton, New York, N. Y.
APRIL 5-9—National Tank Truck Carriers Mid-Year Meeting, Boca Raton Club, Boca Raton, Florida.
APRIL 7—Kentucky Motor Transport Assn. Annual Convention, Kentucky Hotel, Louisville, Ky.
APRIL 10-11—American Transit Assn. Regional Meeting, Royal York Hotel, Toronto, Ont., Canada.
APRIL 16-18—American Society of Lubrication Engineers, Bellevue Stratford, Philadelphia, Pa.
APRIL 19-21—Louisiana Motor Transport Assn. Annual Convention, Bentley Hotel, Alexandria, La.
APR. 24-27—Middle Atlantic Regional Automotive Show, Philadelphia, Pa.
APR. 26-29—Southwest Automotive Show, Oklahoma City, Okla.
APRIL 30-May 4—Fourth National Materials Handling Exposition, International Amphitheatre, Chicago, Ill.



1st SOFT break-in action...then,

2nd Squeezing Action

for longer...double...life

All rings in the RAMCO 10-UP combination have engineered features which contribute importantly to the RAMCO SQUEEZING METHOD of oil and blow-by control. RAMCO employs the "SOFT ACTION" method for the break-in period. Only the soft, gentle graphitic cast-iron bearing surfaces are contacted by the inner-ring during this initial period.

What gives the RAMCO SQUEEZING ACTION increased and unique effectiveness is the RAMCO SPIRO-SEAL continuous steel ring which adjusts its squeezing action to the exact condition of the

cylinder. You can depend on it to be just right, never too harsh, whether the job be RE-BORED or RE-RING, car, bus or truck.

It is facts like these that make RAMCO 10-UP as different in operation as it is different in looks. It is this "differentness" that makes possible the RAMCO RE-POWERING METHOD, whereby you can obtain longer lasting RE-RING or RE-BORE JOBS.

See your RAMCO JOBBER, get your RE-POWERING SIGN and cash in on RAMCO RE-POWERING. RAMSEY CORPORATION, ST. LOUIS, MISSOURI.



Year after Year, Better and Better, Yet, UNCHANGED IN BASIC DESIGN Since Originated by Ramco Many Years Ago...

RE-POWER WITH **RAMCO 10 up**
ALL-PURPOSE PISTON RINGS

Unchanged except for the Better through continuous engineering perfection of detail. No obsolescence loss or risk of performance disappointment due to frequent design changes.



WASHINGTON RUNAROUND

by GENE HARDY Washington Correspondent

Mobilization Shifts Into High

Shifting of the Nation's mobilization program into high gear, resulting from the Presidential proclamation of a national emergency, will not mean any immediate controls on highway transportation as such. It will mean increasing limitations on scarce materials, spreading wage and price controls, and manpower shortages.

The key mobilization agency is now the all-powerful Office of Defense Mobilization established by the President to control all mobilization activities, including those lodged within the Defense Transportation Administration, headed by ICC Commissioner James K. Knudson. ODM's Director, Charles E. Wilson, former General Electric president, possesses powers exceeded only by those held by the President.

For the present, control powers will be administered by the agencies already in existence under ODM direction. The Commerce Dept.'s National Production Authority will continue its control over production and the Defense Transportation Administration will function as before. In the works, however, is a new production agency centralizing these powers, as well as the production and allocation authority held by the Interior and Agriculture Departments. In addition, a central manpower agency combining Labor's Office of Defense Manpower, the U. S. Employment Service and the Selective Service System is under consideration.

The NPA timetable calls for increasingly severe restrictions on the use of tin, copper, cobalt, nickel, aluminum, zinc and other basic materials.

The setting of voluntary "fair standards" for prices and wages for all industry (Dec. 18), which followed the Economic Stabilization Agency's auto price freeze (Dec. 16), was only a temporary measure until detailed regulations can be worked out and a staff built up. Major metals and basic raw materials are slated for early mandatory control. Under the present law, charges by common carriers, utilities and other industries whose rates are controlled by governmental bodies are exempt from price control. However, when price and wage controls blanket the economy, the law provides that notices of rate increases must be filed with the Economic Stabilization Agency 30 days in advance. ESA can then intervene in the case as was done by OPA during World War II.

ATA Pinpoints Trucking Needs

The Defense Transportation Administration now has before it the first data on which it can begin to base a truck program for presentation to NPA. The American Trucking Assns., Inc., has presented a survey to DTA showing that the trucking industry in 1951 will need

a total of 620,000 medium and heavy trucks, truck tractors and truck trailers. This breaks down into 418,000 medium trucks and truck tractors, 106,000 heavy trucks and truck tractors and 96,000 trailers. Of these, 253,000 medium and 56,000 heavy trucks and tractors and 33,000 trailers will be needed for replacement and 165,000 medium and 50,000 heavy trucks and tractors and 63,000 trailers are needed to expand the fleet.

At the same time, the Truck-Trailer Manufacturers Assns. presented DTA with a bill of materials required for the production of 89,789 trailers this year. The difference between the production estimate of 87,789 and ATA's figure of 96,000 results from the fact that the TTMA estimate is based on 90 per cent of the industry's anticipated output. If it covered 100 per cent, the ATA and TTMA figures would be approximately the same.

While presentation of this data provides the starting point for a possible allocation program, much more work must be done. Still lacking is an estimate of light truck needs. ATA says it will cooperate with other associations in making a study of light truck requirements, but it appears likely that the bulk of this job will have to be done by the manufacturers if the needs of the total 8.3 million truck fleet are to be met.

Copper Heads Critical List

Even if a truck allocation program is set up by NPA, non-essential components will go by the boards and conservation orders will require substitutes for items using critical metals. For example, in late December automotive producers were put on notice that limitations on the use of copper would be severe. Copper will soon disappear from items such as hot water supply lines for radiators and frosters, hub caps, lamps and lighting accessories. Elimination of the use of copper rather than elimination of the actual parts is what NPA is striving for, and parts producers prefer an overall limitation on the amount of copper per vehicle, leaving its use to the discretion of the manufacturers. The industry is also determined to assure an adequate supply of replacement parts. During World War II, lack of spare parts immobilized some transportation, while greater amounts of material went into new vehicles. Copper is only one of many materials on which similar restrictions will be coming.

Rubber Gets Tighter

The rubber situation is also tightening up with NPA limitations holding natural rubber use to 51 per cent of the base period for January and 43 per cent for
(TURN TO PAGE 136, PLEASE)



NEGLECTED WIRES cause FIRES!

Defective wires and cables are the worst fire hazard in cars, trucks, buses. Here's proof!

In Chicago alone, 3,633 motor vehicles burned up in 1949. Of these, 2,298—that's 63%—caught fire because of defective wiring!

National Safety Council figures like these tell the same story all over the country—with "caused by defective wiring" fires running as high as 92%!

Remember this! Motor Age editorial investigation of 1940-47 cars proves that:

- 5 out of 10 need light wires!
- 6 out of 10 need battery cables!
- 2.5 out of 10 need ignition wiring!

This is an indication of what happens to wire and cable under the punishment of

heavy duty service in trucks and buses.

Eliminate this fire hazard from your own fleet by *regular* checking of the wire and cable on *every* unit. When the fire trucks roll, it's too late. When insulation is cracked or worn or conductors corroded, install Crescent Wiry Joe Wire and Cable *immediately*. That's the way to eliminate a great fire hazard, and also increase engine efficiency.



THE CRESCENT COMPANY, INC., Pawtucket, R. I.

Check the wire and cable on every car!



Fatty Floorboarder, our veteran road driver, was on his way home from a company safety meeting. The ideas discussed in the meeting were reflected in Fatty's driving habits. When he approached the railroad crossing about a mile from his home he actually stopped, looked and listened. But all he saw, felt, heard—alas—was the car behind crashing into his trunk.

CCJ

Insurance Adjuster: "Why didn't you report the robbery at once? Didn't you suspect something when you came home and discovered all the bureau drawers pulled out with the contents scattered all over?"

Shop Foreman's Wife: "Why, no. I thought that my husband had been looking for a clean shirt."

CCJ

Slim Simpson, our ebony-hued grease monkey, has been trying for a long time to become a member of an exclusive lodge. They have advanced so many reasons for deferring the induction procedure that he has become suspicious. Last week, he approached the exalted panjandrum of the membership committee and said, "Ah'm reclined to think dat you doan' want me in dis heah lodge."

"Well," said the exalted panjandrum, "I'll tell yo' how it is. Yo' is bald, ain't yo'?"

"Yeah, I'se bald, but whut dat got to do wid it?"

"An' yo' is black ain't yo?" continued the expeejay.

"Sho' nuff, I'se blackah dan midnite," replied Slim.

"Well, den, yo' must considah yo'self black bald!"

CCJ

The old timer was tooling his tandem job through the congested streets of a small southern town. Right in the middle of the town he was forced to edge his rig past a car driven by a woman, who was trying to reverse into a parking space that was clearly not big enough. The wing of her car suddenly swung out and bumped the old timer's truck.

Flushed with exasperation, she leaned out of her car window. "You could see I was going to do something stupid," she said. "Why didn't you wait to see what it was."

Automotive Parts Clerk: "Why, dear, I don't think Johnny's reports are so bad. The teacher reported last time he was still trying."

Wife: "Yes, but this new report says 'more trying than ever'."

CCJ

Shop Foreman: "I'm looking for an appropriate gift for my boss, the Maintenance Superintendent. He has just become a proud father for the eleventh time. What would you suggest?"

Clerk in Sporting Goods Store: "Hmm-mm, let me see. Oh, yes, what about this stop watch?"

CCJ

Sue: "AND WHAT DID HE DO WHEN YOU TOLD HIM YOU DIDN'T WANT TO SEE HIM ANY MORE?"

Lou: "WHY, HE TURNED OUT THE LIGHTS."

CCJ

Steno Sue: "I know he's rich, but isn't he too old to be considered eligible?"

Steno Lou: "My dear, he's too eligible to be considered old."



Traffic Rate Clerk: "What did the doctor say was wrong with you, Pete?"

Billing Clerk: "Well, he didn't come right out and say positively. Just told me I can't eat this, can't eat that; can't drink this, can't do that—I reckon you'd call it a bad case of 'Can't Sir'!"

CCJ

Junior: Pop, what's a layman?"

Safety Director: "A layman, son, is a pedestrian who jumped too late."

CCJ

First Truck Mechanic: "What were poor Henry's last words?"

Second Ditto: "It sure tastes like real stuff."

CCJ

THE PRESIDENT OF FLEETY-FLEET MOTOR EXPRESS AND THREE OF HIS CRONIES MADE UP A FOURSOME AT THE COUNTRY CLUB FOR A SATURDAY AFTERNOON OF GOLF. SELECTING A BATTLE-SCARRED FIVE IRON, THE VENERABLE TRUCKING TYCOON PROCEEDED TO TEE-OFF AND SUCCEEDED BY REMOVING HALF AN ANT HILL. UNDISMAYED HE STEPPED BACK, SURVEYED THE SITUATION AND SWUNG AGAIN. THIS TIME ALL THE ANTS WERE SENT TO THEIR CELESTIAL GLORY, EXCEPT TWO.

AT THIS POINT THE SMALLER ANT TURNED TO ITS BIGGER BROTHER AND SAID: "YOU KNOW, IF WE WANT TO SURVIVE THIS ORDEAL WE BETTER STAY ON THE BALL."

CCJ

Safety Sadie (ogling the new tall, dark and handsome truck dispatcher): "That's the sort of man I've been looking for all my life."

Catty Cora (feigning indifference): "Me, too, but you go ahead. You've been looking longer than I."

CCJ

Auto Parts Clerk: "How did your wife get along with her reducing diet?"

Auto Parts Salesman: "Oh, just fine and dandy. She disappeared completely last week!"

CCJ

Homely Homer, our trailer switchman, says: "Life is a gamble, and it doesn't make any difference whether it's a watermelon or a wife you are picking."

Resume Work

NEW

SAFETY LIGHTING by DIETZ

A new universal Stop and Tail Light with plastic reflex reflector—New Protected Giant Stop Light—New Giant Stop Light (Bracket Mounted or Flush Recessed Mounted). Write for catalog pages of these and other NEW DIETZ items... Class "A" Signals—Class "B" Signals—Rubber Protected Mirrors—Back Up Lights—Warning Lights—Protected Clearance Lights.

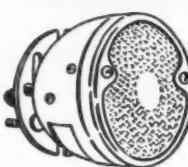
DIETZ

Over a
Century of
Safety
Lighting



No. 105 STOP AND TAIL LIGHT

Stimsonite red reflex lens of Lucite Plastic is practically indestructible... minimizing expense of lens replacement. Far exceeds S. A. E. reflex requirements... State approved and standard equipment on many vehicles. Body is heavy steel with long-wearing black enamel finish... rugged glass license plate lens. Mounted with 2 stud bolts on 2" centers. Double filament 3-21 C.P. Bulb. Removable license plate bracket No. 635-105 is available for use with No. 105 or 105-U Lights.



No. 105-U STOP AND TAIL LIGHT

The same as No. 105, except fitted with universal slotted mounting plate; permitting adjustment to various bolt centers... either horizontal or vertical.



No. 41 GIANT PROTECTED STOP LIGHT

Rugged, heavy steel housing protects lens and light from damage... will outlast ordinary types of stop light many times. The lens is heavy red glass with word STOP firestained on the lens... 21 C.P. Bulb... 2 bolt mounting.

No. 44-BS GIANT STOP LIGHT

With a visible diameter of 6 $\frac{1}{8}$ " this Stop Light with Red or Amber lens is available with firestained word STOP or with plain stippled lens. Door rim—chrome plated on brass. Mounting—L type bracket, 21 C.P. Bulb.

No. 44-S GIANT STOP LIGHT

Same as No. 44-BS with 9 $\frac{1}{4}$ " diameter mounting flange. Depth behind flange 1 5/16" ... panel opening required—6 $\frac{1}{8}$ ".

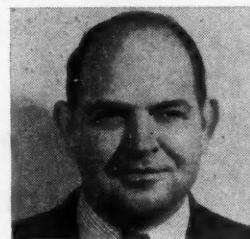


Write today R. E. DIETZ COMPANY • SYRACUSE 1, N. Y.



ATTITUDE ... Key to Accidents

"Attitude still is among the least understood subjects in the field of safety promotion . . . It is vaguely associated with human behavior," says the Author. His explanation is MUST reading for all interested in safety



By Donald S. Buck,
Traffic Safety Engineer, Department of the Army, Washington, D. C.

SKILL is the product of ABILITY plus TRAINING. Driver skill is directly dependent on ability to see, hear, move quickly, learn, and to make quick and accurate decisions. Those important abilities are readily measurable by various standard tests. All instruction and driver experience combined constitute training.

It is axiomatic that an individual possessing the finest abilities is in no wise a skilled driver until he has acquired, by whatever means, the training necessary to help him cope safely with traffic problems.

Conversely, endless training and experience will never wholly offset a

serious deficiency and ability such as blindness or emotional instability and similar shortcomings.

The degree of driver skill should be a valid predictor of relative performance—unfortunately, it is not. Many fleet safety engineers will sadly agree with the statement that driver skill, alone, is not a reliable predictor of driver performance! Too many accidents involve drivers who are long on skill (ability plus training); while the records further confuse the issue by showing other drivers with lesser skill whose performance is consistently safe, sane, and dependable, by comparison.

Attitude Affects Performance

THIS has resulted in a rash of scientific effort to validate, or invalidate, the various tests whereby drivers are selected; in the vain hope of finding some magic panacea which will guarantee desirable performance. Unhappily, PERFORMANCE is the direct product of DRIVER SKILL translated into exposure—as tempered by the DRIVER'S ATTITUDE. Thus, at best, every driver gives only a fractional performance with regard to his actual skill! No driver fully exercises all his talents; since, in varying degrees, he lowers his per-

(TURN TO PAGE 103, PLEASE)

Canadian Fleet's \$500,000 Home

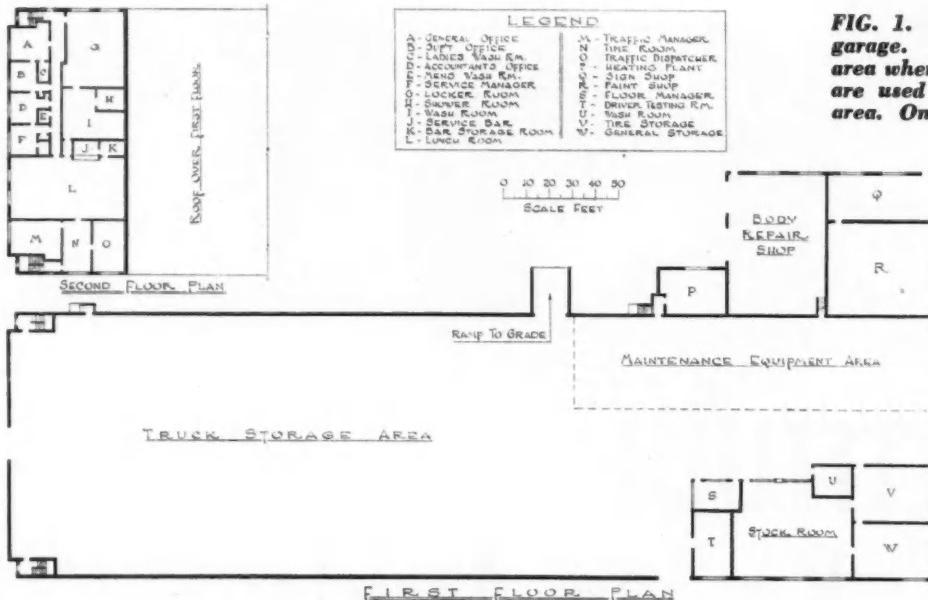


FIG. 1. Floor plan of Labatt's new garage. Drawing shows windowless area where trucks are stored. Windows are used in offices and maintenance area. One of Labatt's semis is shown



Omission of windows in truck storage area cuts construction cost and lower heating bill is expected. Fluorescent lights give ample lighting; duct system vents exhaust fumes

A STEADILY INCREASING demand for our products (India Pale Ale and Crystal Lager) with the consequent steady growth of our truck and passenger car fleets, now totalling well over 200 units, led us last year to plan the erection of a new garage. We wanted a dual-purpose garage; both for storage and for complete maintenance. Subsidiary aims were, easy access and exit from the garage, plenty of well-illuminated elbow room for garage personnel and a clean interior to permit unobstructed vehicle movement.

We believe that we have achieved

these aims in our new half-million dollar home, opened June 2, 1950, with several hundred people attending and some 16 exhibitors of automotive equipment displaying their products.

Running North and South, the main building is 398 ft long by 112 ft wide, or the width of a full city block. An "L"-shaped wing, 88 ft by 60 ft, contains the paint shop, the lettering shop and the body shop. There also is a 25 ft by 25 ft boiler house. A front section of the building contains a mezzanine floor, holding one general office and five private

offices for the various garage executives.

Also found on the mezzanine are lockers, one to every employee, a beautifully furnished and restful waiting room for drivers and garage personnel, equipped with soft chairs, tables and a refreshment counter; a room equipped with an automatic time-recorder; a lunchroom; showers.

In our new garage, we wanted unimpeded freedom of movement. This has been obtained in two ways.

1. Elimination of all floor pillars. This has been achieved by the use of special ceiling construction, which

By C. D. Morris

Superintendent of Transportation
John Labatt Ltd., London, Ontario

Features Windowless Walls

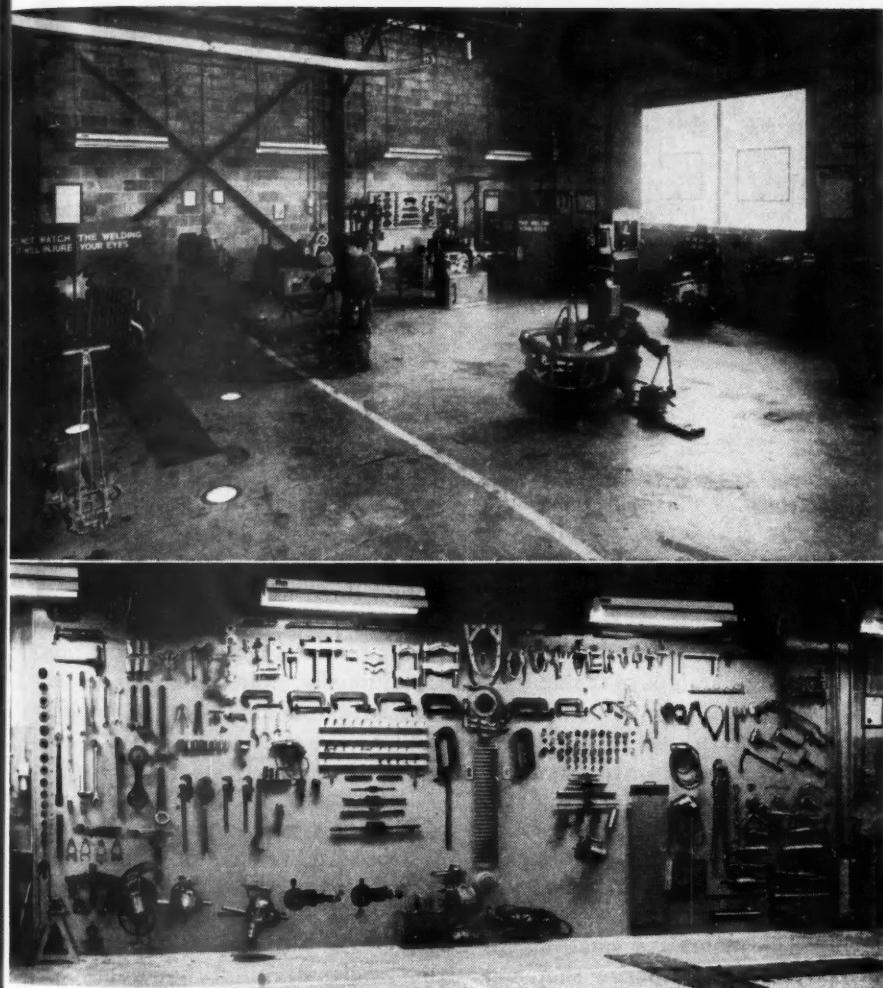


FIG. 2. Corner of shop showing large window and fluorescent lighting. Shop has 55 pieces of modern maintenance equipment. Weaver lift, at left, has floor lights to aid underchassis work. Welding screens, behind lift and in upper right hand corner, are portable

FIG. 3. Well-lighted tool board contains basic as well as special tools

employs steel bowstring roof trusses supported on steel columns encased within the walls.

2. Traffic movement has been systematized because all four sides of the garage are pierced by 14 ft high by 12 ft wide electrically-controlled doors which may be operated at source individually or controlled from the floor despatcher's office.

One-Way Traffic Plan

DEPARTMENTAL layout throughout the garage and location of vehicle doorways were carefully considered before building, because we

wanted traffic to flow in and out smoothly, easily and naturally. We tried to eliminate any blind spots that would lead to traffic jams.

The floor plan of our new building is shown in Fig. 1. Looking from the North door (left end of illustration) down the length of the floor to the South end, fully two-thirds of this total length is occupied by the storage area with numbered stalls along both East and West walls marked off for storage of the trucks.

Still standing at the North door, and looking clockwise around the main body of the garage, we first

come to the storage area, then to the wide door piercing the East wall of this area, then to the heavy repair department, running along the lower end of the East wall right to the end of the building at the South end. Thus, trucks entering the East door merely turn right for storage or to the left for the repair area. An uninvolved straight-line operation.

At the southerly end of the garage, and across the 30-ft wide runway or aisle, we come to various repair and storage areas, the stock department, the driver testing room, and the floor manager's office where, also, the floor despatcher is quartered.

Against the South wall in this group of departments, which are each contained within their own walls, is found first the heavy parts storage area for storing radiators, axles, springs, etc. Abreast of this room is the tire storage area where tires are changed, and where a mechanic at a small steel bench repairs and rebuilds small parts such as generators, fuel pumps, carburetors, etc. After repair, these are stowed away in special shelving of their own.

Following these two rooms comes a large general stock room. Fronting the stock department are two more rooms, the floor manager's office and, abreast of it, the driver testing room. The assistant superintendent of transportation and the chief mechanical repair foreman share the floor manager's office.

Incidentally, the driver testing room is completely equipped with all

(TURN TO NEXT PAGE, PLEASE)

Canadian Fleet's Windowless Walls

Continued from Page 53

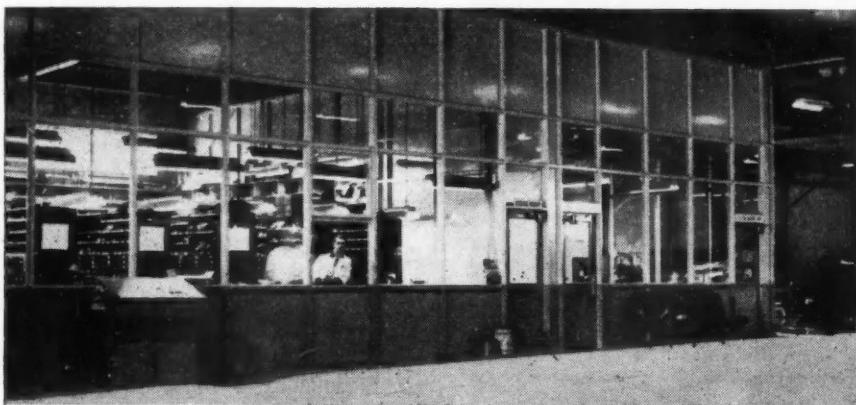


FIG. 4. Spacious and well-lighted parts room carries \$45,000 inventory. Shop foreman and despatcher have their offices at right of the parts room

the various modern mechanical testing devices. It also should be noted that, from the floor manager's office, the floor despatcher has a complete view of all the floor area of the main body of the garage.

Getting back to the flow of traffic into, through, and out of the garage, and bearing in mind the floor layout plan, let us look at the location of our main vehicle doorways again and consider the use we make of them. Running North and South the garage is pierced on East and West by doors which are not quite opposite one another and which are located about three-fifths of the way down the length of the garage. Doors also pierce the North and South walls.

As far as possible, we have restricted the use of the doors to one direction of traffic. For instance, trucks entering the garage invariably use the East doorway because, on this side, lies our outdoor parking area.

Loaded trucks leaving for routes use the North door only which opens to a street. Trucks leaving the repair area for a road test always leave by the South door. This door also faces a street. It is only a step from this area to the door.

The door piercing the West side of the main body of the garage leads to

an alley. This door serves mostly as an auxiliary, used when other exits or entrance doors are not available.

By segregating traffic flow through various doors in this manner, we have successfully kept vehicles moving without fuss or snarl.

All of the aforementioned doors deal with the main body of the garage. But a study of our floor plan will show that there are many other equally wide doorways admitting to our body shop, the lettering shop and the paint shop. These three shops form the "L" at the South end of the garage.

Entrance to the body shop is gained through a door on the North side and this door, like the door through which most of the trucks enter the garage, leads off of our outdoor parking lot.

Three more doors to the street pierce the South end of the annex; one door giving admittance to the lettering shop and the other two to the paint shop. We do all of our own lettering, insignia work and painting in these areas.

The paint shop is equipped with six spray guns. Painters stand upon a specially-constructed, steel pipe, portable ladder for painting the top portions of our vehicles, as shown in Fig. 6.

No Windows in Storage Area

THERE are one or two unusual structural features of our garage worth special mention. First, while much window glass is used to the South end of the main body of the garage, where the repair area is located, none of the storage area has window glass. Elimination of this glass saved much in building costs, and will save much in heating costs during the cold Canadian winter. Lighting is more than adequately taken care of through the generous use of modern fluorescent fixtures.

Washing of the trucks is a nightly job, although drivers often wash them down mornings before leaving for routes. We have no wash rack. Instead, we have sloped the center section of our storage floor area and installed about 200 ft of covered drain down both sides of the center runway. There, trucks are washed with long-handled fountain brushes. Water connections are located at specified points within the drains.

In this particular area, and suspended from I-beams overhead, are found three water reels for watering radiators and six air-reels, complete with pressure gages for inflating tires. Additionally, water and air outlets are built into the walls at specified points.

Exhaust Disposal Adequate

OUR new garage is free of fumes because we have installed an unusually adequate exhaust system. At five points on each side of the garage, large exhaust ducts, build up against the walls, draw off fumes at floor

FIG. 5. Section of storage area, showing windowless walls. Bumper platform, against full length of wall, contains ductwork to draw out fumes



level and exhaust is through the roof through another duct installed directly over a fan unit. Fans and electric motors are supported on special platforms built into the steel framework of the ceiling.

A complete exhaust of floor areas is guaranteed by reason of the bumper platform, about a yard wide and a foot high, running for the entire length of the storage area on both sides. Enclosed within this bumper platform is a continuous length of ductwork which is open-faced its total length. Where no bumper platform is feasible, as in the repair area, the wall ductwork suffices. Altogether, throughout the entire building, 12 motors exhaust to the outdoors.

Shop Well Equipped

ALL departments in the shop are completely equipped with the latest maintenance equipment. Because it is easy on the eyes, and because it contributes to safety, much of the equipment used in the repair area is painted a brilliant green.

A certain section of the floor has been built dead level because this area is used for headlight and front-end testing.

The repair area has two twin-post hoists with built-in lighting at floor level, and three 30-ft work benches. A feature of the area is the 20-ft long by 4-ft wide panel fastened to the wall, upon which are mounted a variety of portable tools. An "L"-shaped monorail with two chainfalls blankets most of this area.

Altogether, 55 pieces of mainte-

nance equipment serves the garage. No mechanic in this shop needs furnish his own tools since the company supplies 21 sets of mechanics tools in special steel boxes. The men also are supplied with a change of coveralls, laundered at company expense, twice per week.

Maintenance is helped in this garage by reason of the fine Parts Department which, despite the fact that all tractors used are of one make, still carries a \$45,000 inventory for every conceivable type of repair or material need. Inventory includes such unusual items as shovels and rubber slickers for bad weather wear.

The smaller stock parts are stored on standard steel shelving, two rows. Other and larger parts and materials are stocked on wooden shelving built along two walls and a further two rows of specially-constructed stands sitting mid-floor. As with all other departments the Parts Department is brilliantly illuminated by eight rows of fluorescent fixtures, four rows of them attached to the stands located mid-floor.

Three men staff the Parts Department. New parts are issued only when the used part is returned with an order signed by the foreman. Used parts are carefully inspected for salvage possibilities. If too bad for repair, they are scrapped.

A perpetual inventory is kept of all stock, incoming, outgoing and balance. All bins are tagged and numbered. A new man can find stock within two days.

Although not large, an important department is the tire and small re-

pairs department, which is the jurisdiction of one man. Here generators, fuel pumps, carburetors, etc. are inspected and rebuilt, if possible.

We do not handle our own tire repairing. This man is responsible for seeing that all vehicles leave with rubber in proper condition. When making a tire change, the complete wheel, tire and all, is removed and replaced with another unit taken out of stock.

Special Equipment

THERE are a few extraneous characteristics about our garage that makes it of more than passing interest to the general public. For instance, there is a Fordson tractor which keeps our yard clean summer and winter, and which has seen service on the city streets in emergencies.

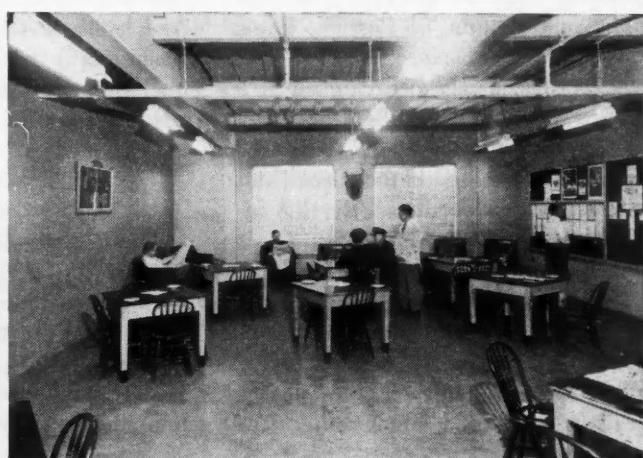
A completely equipped Cadillac ambulance is maintained, on call 24 hours of the day for any Labatt employee or members of his family. It has also served in community emergencies. There are seven portable water pumps, 3000 gal per hour capacity, kept on call for Londoners or other Western Ontario residents. They were even used in Manitoba during the recent Red River flood.

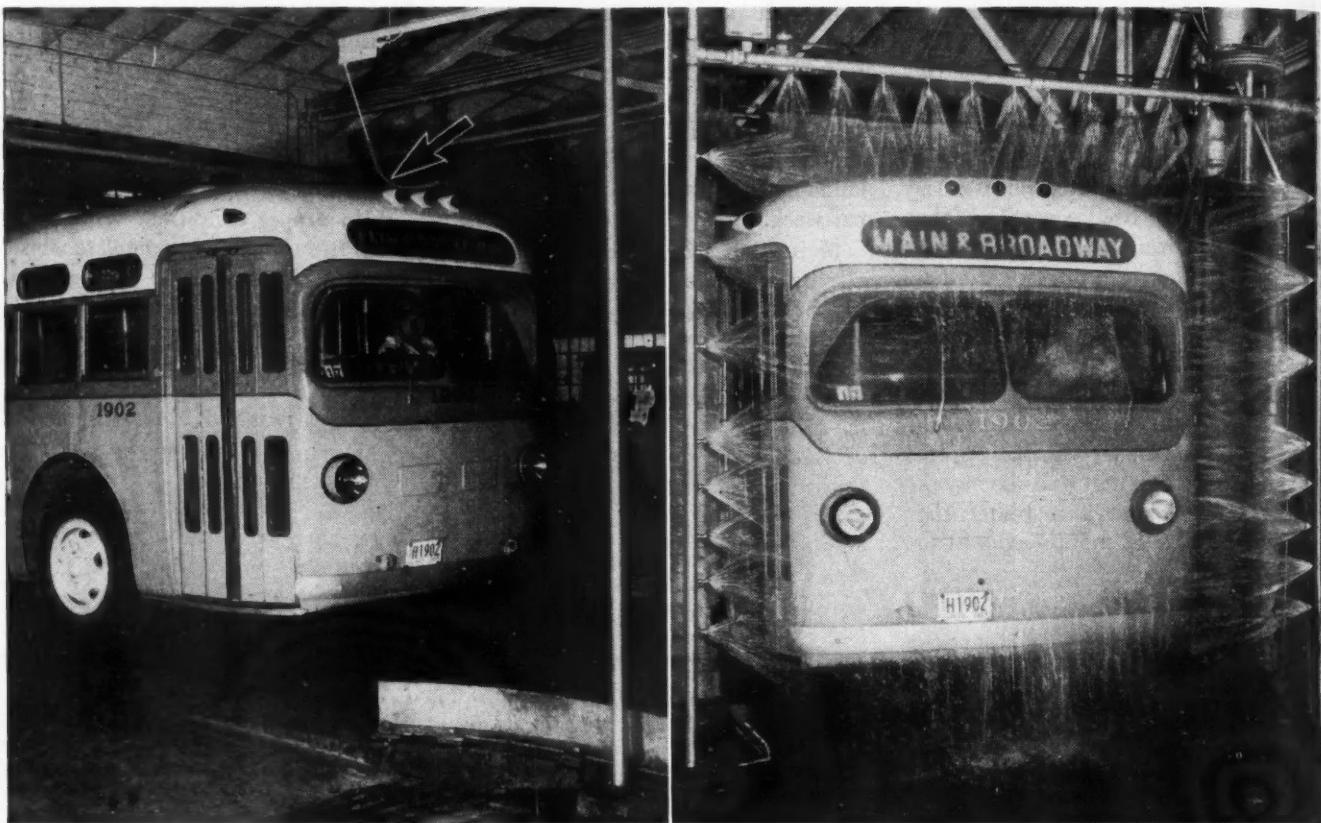
The garage is well equipped with fire-fighting equipment including a dozen or so fire extinguishers located along walls and a large, portable CO₂ extinguisher.

Controlled heat and hot water is supplied to the garage from an oil-fed boiler with a 10,000 gal storage tank capacity through fan-type heaters suspended from the ceiling beams. But uncontrolled heat, (fires, in other words) are looked after by the garage personnel, which is lectured to and trained once per year in fire-fighting tactics by the London fire department.

FIG. 6. As are all departments, paint shop is well-equipped. Here one of the modern semis is getting final touches

Fig. 7. Comfort of personnel has not been overlooked in design of the new building. This is the drivers' room





Arrow points to automatic switch which controls the application of soap solution as bus enters the washing lane

Brush pressure mechanism has been equipped with limit stop to prevent worn brushes marring bus finish

Washing Innovations Save

IN THIS MANUFACTURING CENTER, automobiles, buses and trucks are quick to pick up a depressing coat of smudge. But the light yellow buses of East St. Louis City Lines stay clean.

Experienced bus men can tell at a glance when a bus is clean. They merely look for the water streaks of dirt that show under the rivets and other small projections. By this inspection standard, East St. Louis buses are C-L-E-A-N.

Naturally bus cleaning is not such a complicated job that nobody can do it, even under the most unfavorable conditions. In such cases all you need is unlimited funds and manpower.

In the passenger transportation business there is a limit on the amount of the revenue dollar that can be expended on bus cleaning. And by these standards, the efficient washing job on the East St. Louis bus property also shines because it is produced at a reasonable cost.

Five Man-Hours Saved Daily

THE "clean wash that hangs on this line" comes from a revised version of a standard mechanical bus washing machine with regular spray arches and revolving fountain brushes.

The changes made and the extra equipment designed has resulted in the saving of five man-hours daily—

five hours that was transferred to inside cleaning—and elimination of hand scrubbing the sides of the buses.

The heart of the system is the automatic and controlled application of a liquid soap solution to the top and sides. This solution is applied as the bus enters the first arch of the washer and as the bus moves slowly through the wash lane the soap soaks into the dirt so that the revolving brushes can loosen it all up before it reaches the final arch where clear rinsing water is sprayed on under higher pressure.

It has been found that this washing system saves the finish and reduces painting costs.



H. C. Glidewell
Superintendent of Equipment East St. Louis City Lines

Shop-made devices at East St. Louis City Lines' Property save five man-hours per bus on washing operation and prevent any damage to finish when washer's brushes wear

By L. H. Houck
Special CCJ Correspondent

Time, Improve Appearance

Limit Stop Saves Finish

ANOTHER thing that is not allowed to happen here is damage to the sides from worn side brushes which can sometimes scrape off the paint with their cores. The brush pressure mechanism has been equipped with shop-made limit stops so that when the bristles are worn down to the danger point the shaft can move no further toward the bus.

The automatic soaping system starts with the mixing of the solution in a 55-gallon open-topped steel drum. This device was built and designed in the shop. The open drum is filled with a solution consisting of fifty parts of water to one part of liquid soap.

After the mixture in the open drum, a horizontal pressure tank which is connected to the drum through piping from the bottom, is filled by gravity. When the pressure in the horizontal tank is relieved or reduced to zero, the solution from the open drum will flow into it when the proper valve is opened.

When the horizontal, or injector tank is charged, the line from the open tank is closed, and a regulating reducing valve is opened which admits air under pressure to the horizontal tank. This tank is connected to the regular shop air line which carries 150 lb pressure. The reducing valve maintains the pressure needed on the gage in much the

same manner that the pressure from an acetylene tank is reduced and set at a pre-determined gage reading.

It has been learned that it takes at least 8 psi to raise the soap solution to the top of the first arch. A pressure of 20 to 22 lb sprays the sides of the bus with a gentle application of the soap solution which stays on the bus instead of being bounced off with high pressure.

The outlet of the horizontal tank is connected to the first spray arch by $\frac{3}{8}$ -in. tubing. This tubing is connected into the water line on the outset side of a restriction fitting which reduces the water pressure and thoroughly mixes the soap solution. The final mixture is approximately seven parts water to one soap solution or 350 parts water to one part liquid soap. Mixing the solution and getting the outfit ready to apply the soap is but a matter of minutes.

A valve is opened to run water into the open drum to a marked level. A measured gallon of liquid soap is dumped into it. A valve is opened to drain the charge into the horizontal tank and then closed so that the air pressure to be applied to the horizontal tank will not blow back into the open drum.

A valve is then opened allowing the horizontal pressure vessel to be charged with compressed air at 20 psi. Another valve is opened which allows the solution to flow to the automatic overhead valve which is actuated by the bus. All the valves are conveniently located at a point to the left of the open tank.

Automatic Soap Control

HERE is one of the money-saving features of the arrangement: No soap solution flows out of the system until a bus actuates an overhead valve and when the front is in position to receive the application of soap.

When the bus enters the wash lane and arrives at a position at the front arch to receive the soap spray, the roof contacts a curved rubber hose and raises it to open the valve controlling the soap arch. The soap valve remains open as long as it is in contact with the roof of the bus. When the tail passes the soap arch the rub-

(TURN TO NEXT PAGE, PLEASE)

Washing Innovations . . .

Continued from Page 57



Tank end of automatic soaping system. 55-gal drum contains 50 to 1 mixture of soap which is fed to horizontal tank

ber hose on the valve drops and shuts off the soap.

Both the soap spraying time and the liquid soap to water ratio can be varied to meet every condition.

By the time the tail of the bus has allowed the soap valve to close, the front has entered the rinsing spray. In between the soap arch and the clear water arch the revolving brushes have been scrubbing away.

Control Saves Soap

THIS controlled and automatic application of soap costs less than hand scrubbing. As evidence that the soap is applied where it will do the most good, it requires only two-fifths of a gallon of soap to wash 82 buses. This much soap costs 54 cents, making the cost of soap per batch but little over $\frac{5}{8}$ ths of one cent.

The regular washing schedule calls for washing the entire fleet of 82 buses on Monday and Friday nights. All washing is done at night. During average weather this keeps each bus in sparkling condition. Often these buses are the brightest spots in a muggy atmosphere.

If it rains between Monday and Friday night, the buses will get an extra wash. But if it rains on Thursday night they may not get an extra wash because it is so near to the regular wash. Everything depends on the weather and how dirty the buses are. All schedules are varied.

Since washing by this system the sides of the buses have a better sheen and the pre-soak schedule keeps the depressions and rivet heads free of dirt streaks.

Before this near-automatic system

was developed, the services of one man was required for a full shift to wash the sides of the bus by hand. Now all hand washing of sides has been eliminated.

Roof cleaning is carried on by hand as before but the system makes fewer roof clean-ups necessary because of the soap soak and water rinse on the roof at the same time the sides are getting cleaned. Roofs are brush cleaned about every two months.

The washing system has had a decidedly beneficial effect on paint and decals, according to Mr. H. C. Glidewell, superintendent of equipment. Exterior painting takes place at the rate of 32 buses per year under normal conditions which excludes damaged panels and panels ruined by juvenile marking with lipstick and crayons. Since it takes almost three years to paint the entire fleet at this rate, each paint job keeps up an acceptable appearance for about three years.

Mr. Glidewell also said there was a noticeable absence of a hard film coating since they started using this system, indicating, he said, that the regular and even application of a liquid soap solution at a controlled pressure keeps the film loosened up so it is easily floated off.

The method also requires less soap than by the hand method and yet apparently applies it more evenly.

Engines and engine compartments are part of the cleaning program and are steam cleaned at regular intervals. Oil and grease pools and smudges are kept washed out by the steam which makes for a cleaner compartment and a cleaner engine for the servicemen and the repair crew.

While the development of the equipment to apply the soap solution automatically saved five hours over the older method, this hour saving was used to release a man from hand cleaning so he could devote his time to interior cleaning. In other words, the saving was used to give the bus more cleaning.

There is a definite tie-in between selling rides and maintaining clean buses and public relations and good will for the owners get a definite boost when clean buses are kept clean. So the sparkling cleanliness of E. St. Louis City Lines buses is no doubt partly responsible for the appreciation the public shows by the rides it buys.

EVERY DAY, the average fleet operator's drivers make thousands of customer contacts. Whether they will be contacts which breed good will or ill will depends upon how the driver conducts himself during the crucial few minutes when he meets the customer.

Well aware of this, and eager to make every contact one which builds up good customer relations, George W. McKelvey, route manager for the Dr. Pepper Bottling Co., New Orleans, has isolated what he calls "22 reasons why the customer likes to do business with a driver."

McKelvey constantly "sells" these 22 factors to his drivers. He reminds them that the driver, whom it is a pleasure to meet daily;

1. Speaks distinctly in a well-modu-



Dr. Pepper's Driver Pep Talk

lated voice that does not disturb the store.

"No dealer," according to the route manager of the New Orleans Dr. Pepper Bottling Co., "wants to have his customers annoyed, or his routine disturbed, by a loud-mouthed lout. Nor, on the other hand, does he take with great liking to a mumbler whose words can never be distinctly understood."

2. Is business-like, friendly, but never rowdy; he refrains from horse play.

"Who wants a practical joke player? Who welcomes a back slapper?" asks Mr. McKelvey. "Our drivers are business-like, but not the point of being all business and only business. A friendly, glad-to-meet-you smile and a small amount of chitchat help in selling the routeman to the dealer."

3. Makes a good appearance; is always neat, well-groomed and in uniform.

"A man is judged first by his outward appearance," McKelvey notes, (TURN TO PAGE 100, PLEASE)

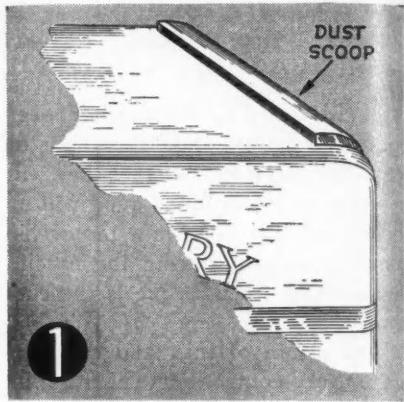
By B. L. Gough

Here's an Outline of the 22 Points Stressed in This Fleet's Training

Every top notch Dr. Pepper driver salesman:

1. Speaks distinctly.
2. Is businesslike.
3. Makes a good appearance.
4. Is a good listener.
5. Passes along good sales ideas.
6. Knows his products.
7. Never knocks competitor.
8. Shows interest in customer's problems.
9. Does not abuse promises.
10. Does not abuse customer friendship.
11. Outlines plans quickly and concisely.
12. Courteous to customer and personnel.
13. Avoids distasteful language and jokes.
14. Is sympathetic, never invites sympathy.
15. Displays pride in company and products.
16. Does not complain about empties.
17. Keeps his stocks clean.
18. Keeps displays clean and up to date.
19. Never molests competitive displays.
20. Never lets his truck block drives or walks.
21. Handles bottles and cases with minimum noise.
22. Expresses appreciation for business received.

Shop hints from FLEET SHOPS



\$25 FOR THE BEST HINT PUBLISHED EACH MONTH . . .

\$5 FOR ALL HINTS PUBLISHED EACH MONTH

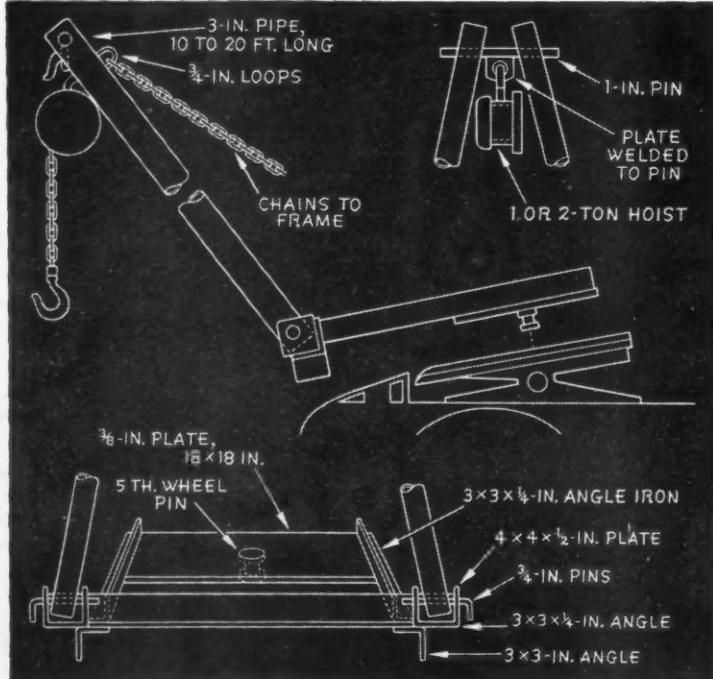
\$25 Hint of the Month

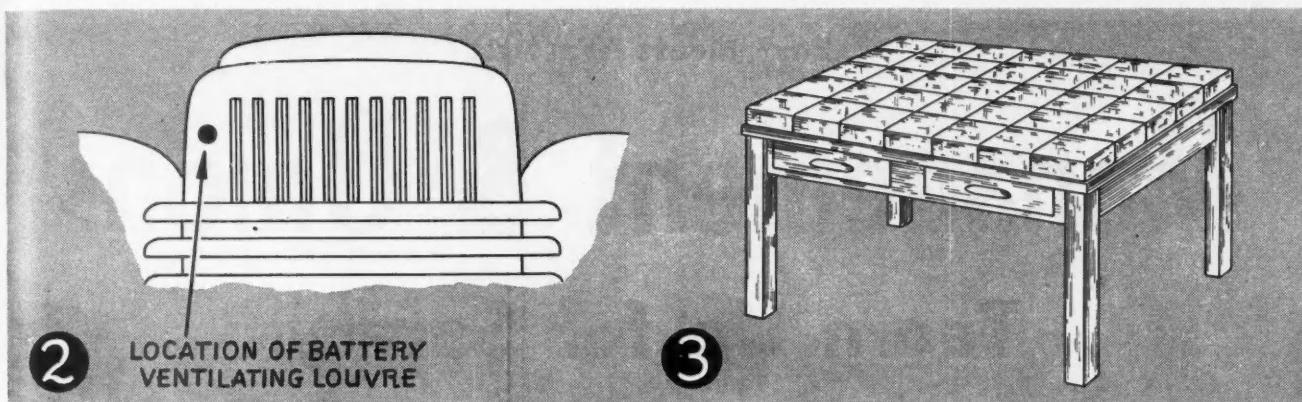
5th Wheel Hoist

by Joel L. Crupper
Crupper Transport Co.
Hutchinson, Kan.

Here is a device which will come in handy around any shop for moving heavy parts, loading or unloading operations, or for any of a number of jobs where a portable hoist is required.

This hoist is made from a 1½-in. steel plate to which is welded a fifth wheel king pin. Three by 3-in. angle irons are welded to the plate and extended back to a point where the rear ends will rest on the truck frame. Upon this base an A frame is constructed from two sections of 3-in. pipe which is braced to the front frame of the tractor with two chains. Inset will show construction features of the tip of the A frame, and the end view drawing shows details of the mounting of the frame to the base. A chain hoist secured to the tip of the boom completes the unit.





1. Dust Scoop

by Walter H. Bowert
General Baking Co.
Enid, Okla.

When your trucks operate over dusty roads, eddying currents of air swirling into the back cause heavy accumulations of dust and road grime which get in through the rear doors of the panel jobs. Here is one way to provide for self cleaning and to eliminate much of this trouble. Fashion a dust scoop as shown and fasten it to the rear of the body just ahead of the drop-off. Curve the scoop so that the air will pass downward and over the rear doors. A design to fit the lines of your truck will not destroy its appearance and will save a lot of interior cleaning.

2. IHC Battery Ventilator

by Ralph Titus
Danville, Ill.

I found a way to stop batteries on L model International Harvester trucks from boiling water out every day. First, remove the battery and cut a 6-in. hole in the right hand fender plate next the battery box. Then cut a hole in the plate running from the fender to the radiator low enough so that air can enter from the grille, pass through the opening and so cool the battery. This will eliminate overheating and the necessity for frequent filling.

3. Battery Table

by H. Miller
Mayover's Garage
Philadelphia, Pa.

Since wood or metal top battery benches rot out from acid, we have solved the problem of replacing tops

with the use of a glass surface. Glass building blocks cemented together on a table top provide an attractive, easy-to-clean and long lasting surface.

4. Air-Powered Valve Lifter

by Emerson J. Wilcox
Port Huron, Mich.

Here is a home-made air-powered valve lifter that has proved handy in our shop. A regular hand lifter can be modified in this manner and will help to speed the work.

Remove the hand lever from the lifter and mount a small air brake chamber to the back of the clamp in such a position that the push rod when connected to the lifter will actuate it through the normal length of travel. Connect the chamber to an air brake treadle valve and supply shop air through a suitable line. Any mechanic with a little time and patience can hook up this tool in a jiffy.

5. Wiring Tip

by Frank Drew
Standard Laundry Co.
Jersey City, N. J.

I have a little tip that might be passed on to the trade. When you replace wires in headlights or any connection where a soldered tip is needed, simply heat a piece of solder until it forms a ball; then stick the end of your wire into the ball of solder. Apply cold water; then shape the tip to desired size with a file or grinder.

6. Welding Hose Salvage

by Harvey Muller
Auto Service
Danboro, Pa.

In using our oxy-acetylene outfit, we find that the hose at the torch end

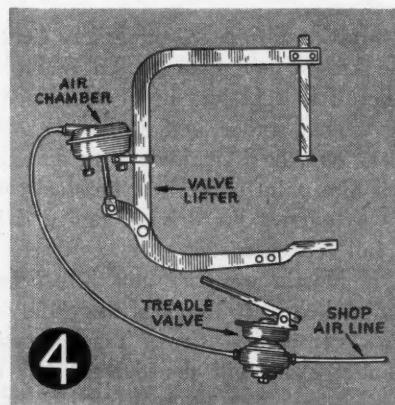
wears first rather than the end which fits the coupling at the tank. Common practice has been to cut it off at the torch end as soon as it shows wear or springs a leak.

Since this action progressively shortens the hose as well as its useful life, instead of cutting the worn end, reverse it, putting this end up at the tank fittings and the good end down at the torch, because, due to constant handling, it is the torch end that wears out the fastest.

7. Freeing Heat Control Valves

by R. Courtney Burdick
King Motor Co., Crockett, Tex.

We have experienced a great deal of trouble on Chevrolets with freezing of the heat control valve shaft in the heat riser manifold. I have found that ordinary iodine will free the shaft quicker than penetrating oil. I use an ordinary eye dropper to squirt it around the shaft. I have asked several druggists what chemical reaction takes place, but they haven't been able to tell me. Nevertheless, this stuff will do the trick.



East Meets West as

Management & Unions

Team Up for Safety

Los Angeles Safety Center provides non-profit re-examination service for 5000 drivers a year

By James Joseph
Special CCJ Correspondent

LOS ANGELES' DRIVER SAFETY CENTER, established just three years ago, has already examined over 15,000 professional truck drivers, screened them for physical and safety qualifications—and has taken the guess work out of driver safety.

At the Driver Safety Center—a joint, non-profit project of the Motor Truck Association of Southern California and the Western Line Drivers Council of the teamsters' union, AFL—the driver and company get cold, analytical facts.

Joe Martin is probably typical of line drivers. Like thousands of old-time line drivers—both gas and diesel men—he arrived at the Center for his yearly check-up. He's behind the wheel most of the day, carrying heavy-duty oil well pumps over rugged roads in southern California's oil fields. To date, he's had no chargeable accidents.

Martin approaches the Safety Center like most drivers. He knows he'll take mental and physical tests, subject himself to a battery of queer devices geared to tell how he reacts under actual driving conditions. Later, at test's end, he'll sit down with an expert examiner who'll tell him point blank how he stacks up, what he needs to do to correct his driving faults. His company will get a full report, too.

If Martin were a "new hire," he couldn't clear his union before he'd taken the Safety Center exam. Martin's company—Crow Transportation—foots the \$5 annual exam bill per driver. His company thinks it's
(TURN TO PAGE 122, PLEASE)

Philadelphia's Accident Court reviews each mishap with an eye on defensive driving practices

By Bart Rawson
Editor, Commercial Car Journal

EVERY MONDAY night is traffic accident court night in Philadelphia. But this is a different kind of a court, believed to be the only one of its kind in America. It acts as a review board for all "chargeable" accidents charged to drivers of trucks belonging to members of the Philadelphia Chapter of the Pennsylvania Motor Truck Association. It's part of the Philadelphia Accident Prevention Program sponsored jointly by the PMTA and Teamsters Joint Council No. 53.

The idea originated back in 1949 when Meyer Brody, chairman of PMTA's safety committee suggested that aggressive plans be taken on a *local* level to follow through on safety activities now in progress on both national and statewide scales. He proposed the idea of the driver court and when Local 107's secretary-treasurer Eddie Crumback heard about it he threw the weight of the Local wholeheartedly behind the idea.

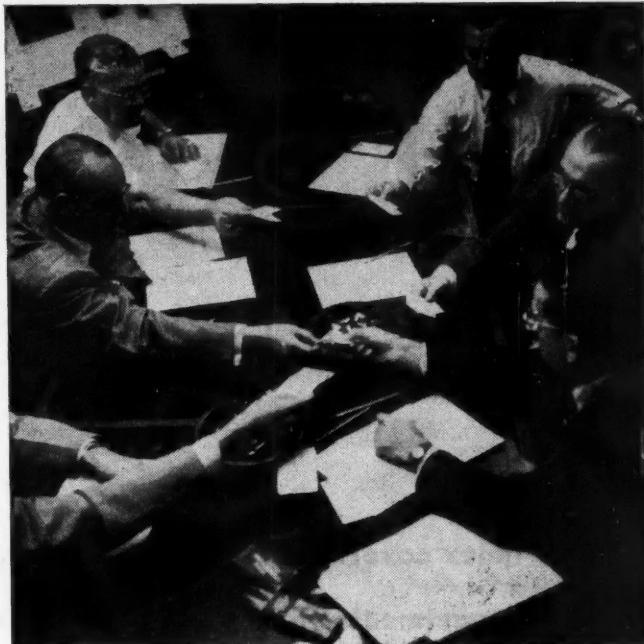
Boon to Small Operators

THE fact that it is a cooperative venture, jointly sponsored by union and association, gives it tremendous appeal for the small fleet operator. As is well-known, many of the nation's largest fleets have their *own* mechanism for careful and fair-minded appraisal of accidents. But almost none of the smaller fleets have such facilities. Here, for the first time, is a real help for the smaller fleets and it has the added advantage of being completely impartial. As will be pointed out later, no driver ever faces his own boss at the court.



Above Photos by Dick Wolters, courtesy of Business Week

Philadelphia's Monday night court sessions begin with complete review of accident by driver. To aid in visualizing all circumstances, driver uses magnetic board, with models.



After all facts are before judges (two from union, two from management) they vote on responsibility. Key questions: Could accident have been avoided by defensive driving?

The driver of this vehicle has signed a
SAFE DRIVER'S PLEDGE

Philadelphia Accident Prevention Program
 jointly sponsored by
PENNA. MOTOR TRUCK ASS'N
 Philadelphia Chapter
HIGHWAY TRUCK DRIVERS LOCAL 107 A. F. of L.

PLEASE COOPERATE

Two-color card for rear of truck provides added incentive for Philadelphia plan, builds cooperation from the public.

SAFE DRIVER'S PLEDGE	
<i>The undersigned driver hereby pledges to the Philadelphia Accident Prevention Program jointly sponsored by Pennsylvania Motor Truck Association and Highway Truck Drivers' Local 107:</i>	
1. To wholeheartedly SUPPORT the program. 2. To drive SAFELY. 3. To give COURTEOUS CONSIDERATION to all other users of the highways. 4. To do my utmost to AVOID ACCIDENTS by practicing DEFENSIVE DRIVING. 5. To GIVE AID at the scene of accidents. 6. To ASSIST other users of the highway who are in difficulty. 7. To be an example to my vehicle that I may deserve to be recognized as one of the GENTLEMEN OF THE HIGHWAYS.	
Union Affiliation <input type="text"/> Local No. _____ Home Address <input type="text"/> _____ Date _____	Signature <input type="text"/> Name _____ City _____ State _____
Name of Present Employer _____ <small>Sign and hand back to your employer—He will forward to Philadelphia Accident Prevention Program</small>	

Safe Driver's Pledge is signed by all drivers of member firms with pocket certificate, serves as constant reminder.

How the Court Works

THIS, in a nut shell, is how the court works. When a driver has a chargeable accident the truck owner immediately notifies the PMTA's chapter office. Here, these notices are consolidated and a "docket" prepared. Sometimes the driver will be scheduled for the next Monday night; sometimes it may be two or three weeks before the docket can handle him. Next, PMTA advises the employer as to the date the driver will appear. Finally, the employer notifies the driver of date and time and it's up to the driver to appear—on his own time.

The court's judges are made up of two union business agents and two employers, who are selected on a rotating basis from members of union and PMTA panels. Dockets

are so prepared that a driver will never appear before his own employer.

In session, the four-member judges' panel calls the driver before it, makes him feel at home, explains that the court's major purpose is to prevent future accidents rather than penalize for the current one, then asks for the driver's full story of "how it happened."

To aid the driver in explaining details, the court is equipped with a carefully constructed chart which provides all types of highway intersections, and numerous models of trucks and passenger cars. The driver is asked to demonstrate the situation with the models.

When the driver is through, each member may ask any questions. Then the driver is sent out of the room
(TURN TO PAGE 124, PLEASE)

YOU SAW IT in CCJ

AN ABRIDGED INDEX OF 1950 EDITORIAL FEATURES

Index covers feature articles only. For location of CCJ's 15 monthly departmental features, see table of contents on page 2 of each issue

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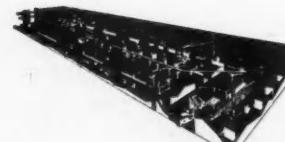
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* Features bus operation.





Three Coast Truck Lines Tandem Units with Painted Panels

PAINTED PANELS Promote Customers' Products

Public attention also attracted to carrier's new name by large colorful display signs on trailer sides. Customer good-will achieved simultaneously

By F. M. Nier

HOW CAN TRUCK LINES get the public to notice and remember a change in name? This was the question perplexing the Coast Transit, Inc., and the South Freight Companies of Seattle, Wash., while they were negotiating a merger, under the name "Coast Truck Lines," with the same ownership and management.

Merely enlarging the size of the printed letters covering the sides of the trailers did not appear to be satisfactory. It was considered to be ineffective since the public is normally calloused to self-emulation. Something more colorful or dynamic was needed to command attention.

Company officials decided to paint large, colorful signs on the trailer sides along with the new company name, Coast Truck Lines. Promoting specific products as the main theme of the signs, as practiced by contract carriers, was considered a "form of rebate," and therefore illegal.

"Boost The Northwest" was the general slogan finally adopted to head the series of signs which described, with pictures, general products of the Pacific Northwest. The secondary slogans employed not only educate local consumers but apprise tourists of food delicacies and leading products yielded in the Evergreen State. For example, it is not generally known that Washington State produces cranberries, packed and distributed under a Cape Cod label. By publicizing this product in the signs, the cannery is being aided in educating the public and promoting the sale of cranberries all year around.

Wondering how it could better serve, through the improvement of the regular promotion released by its various customers, the Company added its own ideas to displays. It learned that the local fish interests were concerned over the foreign imports of crab meat from the Russian

and Chinese markets. Consequently, an emblem of the U. S. and words "caught and packed by Americans" was incorporated into the Dungeness Crab Meat sign.

The first broadside sign was unveiled in December, 1949. It was not until April, 1950, that the public and customer acclaim became noticeable. Congratulatory letters and phone calls began pouring into the Seattle office. "It's something which should have been done a long time ago," agreed food producers, packers, distributors and fellow Washingtonians.

Competitors often ask, "How much do you get paid for that advertising?" Coast Truck Lines has done it gratuitously, feeling amply repaid in attracting public notice to the colorful panels and to the change in its own name. Increased good-will among customers is something which cannot be computed in ledgers.

Cost of Panels

COSTS for painting panels, which measure 7 ft by 12 ft, are \$40 per panel. With two panels painted on each trailer, the total cost is \$80.

The painted panel campaign has met with such favorable response that it will be continued long after the primary objective has been accomplished, public acceptance of the new name, Coast Truck Lines.

Average Life of Front Spring Assemblies is 66,357 Miles



SURVEY NO. 20

Part 3

Reported life of rear springs is greater, with a national average of 78,416 Miles; trailer springs top all with 95,297. Fifth wheel components, shock absorbers, tarpaulins included in this survey

Analysis by A. W. GREENE, Managing Editor, Commercial Car Journal.

GENERALLY SPEAKING, rear spring assemblies average about 12,000 miles longer life than front springs. Exceptions to this rule are to be found in Table 1. There it will be seen that front and rear springs have about the same life among the For-Hire carriers. On the other hand, among fleets in Construction and Industrial groups rear springs have a shorter life.

Trailer spring assemblies show a national average life of 95,297 miles; about 44 per cent more than front truck and tractor springs and 22 per cent more than truck and tractor rear springs.

Shackles Average 64,896 Miles

THE life of related spring assembly parts is shown in Table 2.

This data shows that spring shackle assemblies have a lower average life than any of the spring assemblies. U-bolts, on the other hand, show a much longer life than any of the parts of the axle suspension components.

The life of two other parts—torque arm bushings and body hold-down bolts—also are shown in Table 2.

(TURN TO NEXT PAGE, PLEASE)



Rear Spring Assemblies Average 78,416 Miles.

Lowest rear spring mileage reported is 10,000 highest 200,000. The range for front and trailer springs is greater — 10,000 to 300,000 miles

Table 1

VOCATIONAL GROUPS	Number of Fleets Reporting	SPRING ASSEMBLIES					
		FRONT		REAR		TRAILER	
		Mileage	Range (Last 000 Omitted)	Mileage	Range (Last 000 Omitted)	Mileage	Range (Last 000 Omitted)
FOR-HIRE CARRIERS.....	19	30 - 200	86,667	20 - 200	86,111	25 - 200	77,941
FOOD DISTRIBUTION.....	28	20 - 300	82,333	20 - 200	90,481	35 - 300	147,737
GOVERNMENT.....	21	10 - 100	42,857	10 - 100	51,450	10 - 100	50,714
CONSTRUCTION AND MINING.....	4	30 - 120	72,500	30 - 120	50,000	70 - 120	97,500
INDUSTRIAL.....	5	10 - 160	55,000	10 - 90	46,250	10 - 100	51,250
PETROLEUM.....	6	95 - 150	120,000	100 - 175	139,000	125 - 160	144,000
PUBLIC UTILITY.....	11	25 - 150	58,182	25 - 80	57,275	50 - 200	105,000
RETAIL DELIVERY.....	14	10 - 70	31,500	10 - 100	42,714	20 - 65	41,250
TRUCK RENTAL.....	3	30 - 60	46,667	35 - 90	75,000	100	100,000
TRUCK AND BUS FLEETS, MIXED.....	3	20 - 132	81,000	40 - 140	78,667	...	...
TOTAL AND AVERAGE..... ALL VOCATIONAL GROUPS	114	10 - 300	66,357	10 - 200	78,415	10 - 300	95,297



64,896 Miles

Spring Shackle Life is Lower Than That of Springs.

Table 2

While there is a similarity in the range of mileages reported, the national average is about 1,500 miles less than average life of front springs

VOCATIONAL GROUPS	SPRING SHACKLE ASSEMBLY		SPRING TORQUE ARM BUSHINGS		SPRING U-BOLTS		BODY HOLD-DOWN BOLTS	
	Mileage		Mileage		Mileage		Mileage	
	Number of Fleets Reporting	Range (Last 000 Omitted)	Average	Range (Last 000 Omitted)	Average	Range (Last 000 Omitted)	Average	Range (Last 000 Omitted)
FOR-HIRE CARRIERS	18	20 - 200	86,764	20 - 150	79,545	30 - 300	137,500	25 - 200
FOOD DISTRIBUTION	27	12 - 300	65,269	20 - 300	77,777	20 - 350	132,500	50 - 200
GOVERNMENT	25	15 - 100	49,782	15 - 100	56,667	15 - 120	66,555	5 - 150
CONSTRUCTION AND MINING	4	60 - 75	65,000	30 - 60	42,500	30 - 200	110,000	60 - 150
INDUSTRIAL	4	10 - 175	96,250	10 - 90	43,333	10 - 400	156,667	10 - 200
PETROLEUM	6	70 - 150	107,500	70 - 160	100,833	180 - 250	207,500	50 - 200
PUBLIC UTILITY	15	15 - 75	45,333	30 - 63	48,333	30 - 200	82,500	25 - 150
RETAIL DELIVERY	15	10 - 200	43,400	15 - 100	45,667	20 - 300	73,667	10 - 150
TRUCK RENTAL	4	25 - 100	66,250	80 - 100	80,000	100 - 200	100,000	20 - 250
TRUCK AND BUS FLEETS, MIXED	2	45 - 280	162,500	140	140,000	50 - 450	250,000	20
TOTAL AND AVERAGE	120	10 - 300	64,896	10 - 300	66,699	10 - 450	110,135	5 - 250
ALL VOCATIONAL GROUPS								92,615

51,511 Miles for Shocks

THE life of shock absorbers varies from 10,000 to 150,000 miles, with 51,511 as the national average. One of the surprising facts is that the highest group average is reported by Construction fleets and the lowest by Public Utility fleets.

Excellent life is reported for the fifth wheel assemblies. As shown in Table 3, the national average life for the fifth wheel is 178,508 miles. The life of the fifth-wheel king pin is about 20,000 miles less. However, it is of interest to note that three

vocational groups show a higher life for the pin than for its mating part.

The lowest group average life for both fifth-wheel parts is reported by Government fleets. The difference between these average mileages and the next highest is surprisingly great.

Tarpaulin life, also shown in Table 3, has a national average life of 60,354 miles. While there are a number of factors that enter into the life of a tarp, it is hard to account for the low averages reported by the Government, Public Utilities and For-Hire fleets—unless it be hard usage.



66,357 Miles

150,000 Miles is Longest Life Reported for Shocks.

Table 3

Range of reported mileages for shock absorbers shows 10,000 is lowest. Fifth-wheel components have good life span. Tarps average 60,354 miles

VOCATIONAL GROUPS	SHOCK ABSORBERS		KING PIN (5TH WHEEL)		FIFTH WHEEL		TARPAULINS	
	Mileage		Mileage		Mileage		Mileage	
	Number of Fleets Reporting	Range (Last 000 Omitted)	Average	Range (Last 000 Omitted)	Average	Range (Last 000 Omitted)	Average	Range (Last 000 Omitted)
FOR-HIRE CARRIERS	17	25 - 125	61,667	100 - 300	180,357	90 - 500	227,667	10 - 75
FOOD DISTRIBUTION	23	20 - 100	48,984	25 - 300	188,706	50 - 500	193,736	20 - 300
GOVERNMENT	20	20 - 75	45,941	30 - 100	88,500	20 - 100	78,500	10 - 200
CONSTRUCTION AND MINING	3	40 - 150	95,000	80 - 250	143,338	100 - 200	150,000	40 - 150
INDUSTRIAL	5	10 - 125	61,667	100 - 400	250,000	100 - 400	208,333	10 - 90
PETROLEUM	6	50 - 75	58,333	75 - 200	162,500	75 - 265	152,500	.....
PUBLIC UTILITY	15	10 - 80	36,667	100	100,000	100	100,000	20 - 75
RETAIL DELIVERY	15	15 - 150	56,571	50 - 300	107,200	25 - 300	158,333	20 - 150
TRUCK RENTAL	4	20 - 75	48,333	100 - 150	116,667	200 - 250	216,667	25 - 100
TRUCK AND BUS FLEETS, MIXED	2	50 - 88	69,000	.....	.....	200 - 250	50	50,000
TOTAL AND AVERAGE	108	10 - 150	51,511	25 - 400	157,200	20 - 500	178,508	10 - 300
ALL VOCATIONAL GROUPS								60,354

Composition of Vocational Groups as Used in the Accompanying Tables

FOR-HIRE CARRIERS—Motor Freight Carriers in Local and Over-the-Road Service.

FOOD DISTRIBUTION—Bakery, Dairy, and Other Food Products Fleets.

GOVERNMENT—State, County, Municipal and Federal fleets.

CONSTRUCTION AND MINING—Building, Mine, Quarry, and Gravel Fleets.

INDUSTRIAL—Fleets operated by manufacturers.

PETROLEUM—Production and Distribution Fleets.

PUBLIC UTILITY—Gas, Power, Water, and Telephone Fleets.

RETAIL DELIVERY—(Other than Food Products) Dry Cleaning, Laundry, News-

paper, Coal, Ice, Department Store, Beverage Fleets.

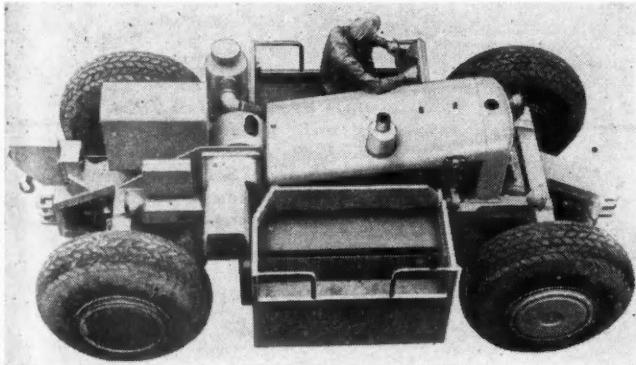
TRUCK RENTAL—Agencies leasing motor trucks.

TRUCK AND BUS FLEETS, MIXED—Passenger carriers operating own truck fleets.

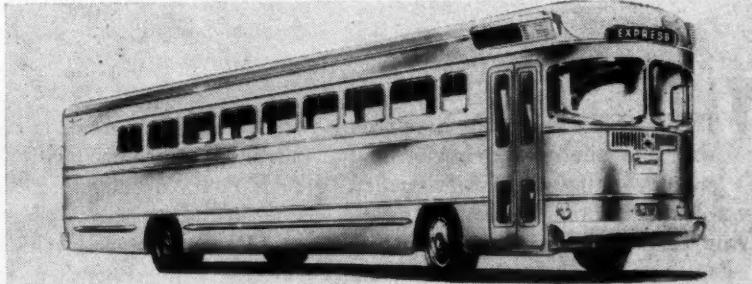


▲ Small and compact this gasoline-powered Trackmobile developed by Whiting Corp. promises versatility in spotting and switching railway cars. It travels either on the rail or on the ground and is changed in just 30 sec. Hydraulic jacking power is employed to develop an adhesive force while a portion of the car's weight is transferred to the Trackmobile, enabling it to develop a draw-bar pull of 7350 lb

▼ The Tournatow is said to be the first machine to put diesel-electric drive on rubber-tire-mounted earth moving equipment. Developed by R. G. LeTourneau, Inc., this machine uses its own diesel engine to generate its own power, and provides power for all steering, forward, reverse and lateral movements. No clutch, transmission or differential is necessary

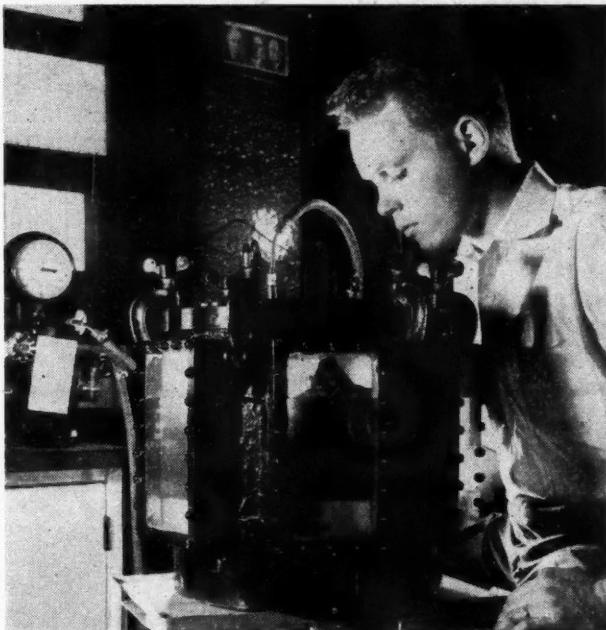


Twin Coach's "Convertible" can be converted at a moment's notice from passenger coach to cargo truck, or from truck to bus. Socket-mounted seats and partitions are easily removable, and baggage racks fold down to provide a protective screening when the bus becomes a truck. It is 35 ft long and provides space for 37 passengers with 321 cu ft of cargo space. GVW, 32,000 lb; payload 17,000 lb



PICKED OF INTEREST TO FLEETS

▼ To test the waterproof electrical equipment used on Reo's Eager Beaver, every unit is dunked in a tank and checked under 6 lb pressure. This simulates water pressure found at a depth of 14 ft. In companion tests insulating material is subjected to more than 42,000 volts, before going into Reo's Army vehicle



◀ Greatly improved tank-trailer maneuverability is one of the features of this new model White 3026 tractor demonstrated at the annual meeting of the American Petroleum Institute. This new model is teamed with a newly designed 6300-gal tanker developed by The Standard Oil Co of Ohio and Penn Furnace and Iron Co with Union Metal Mfg. Co. Hoobler under-carriage

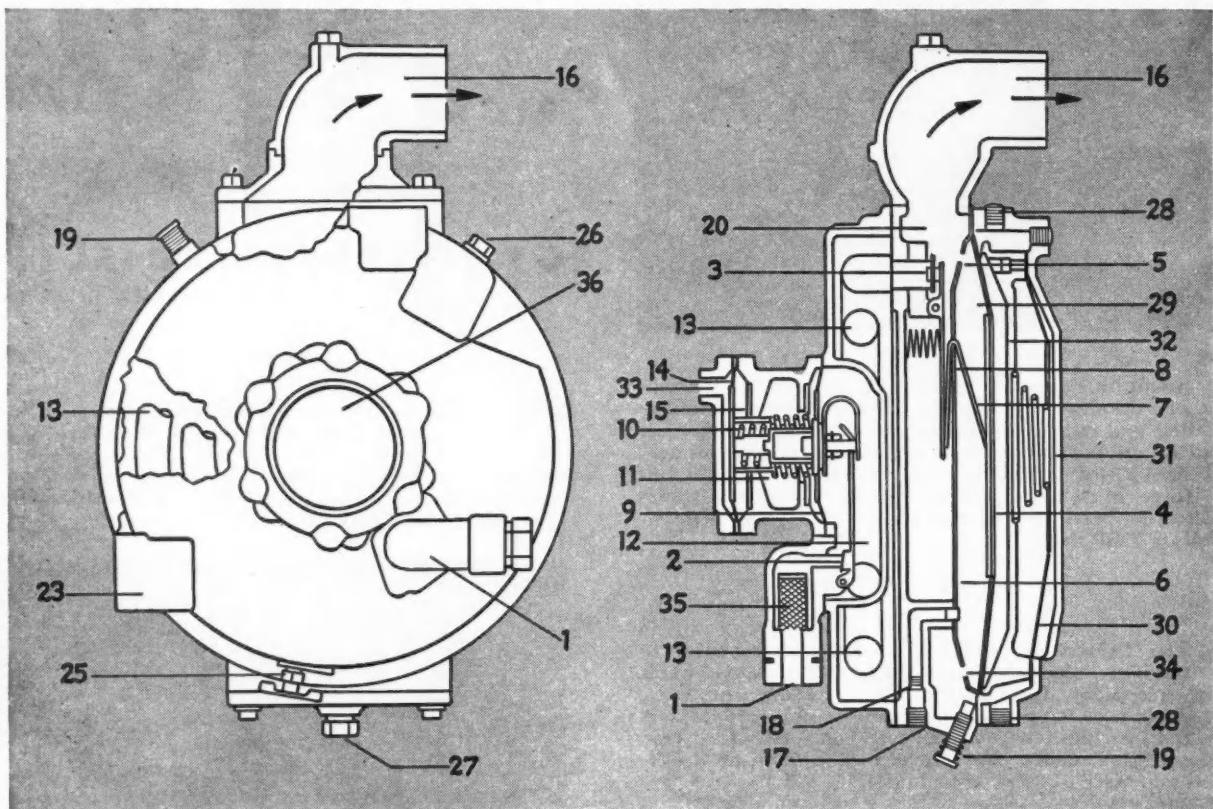


Fig. 1. Schematic drawing of the Ensign regulating unit, with high pressure regulator, heat exchanger, low pressure unit combined. See text for nomenclature and discussion of operation of this component

LP GAS—Principles of

... Showing how LP fuel is distributed, carbureted and burned in internal combustion engines

THE PAST few months have seen considerable interest develop around the country on the subject of liquefied petroleum (butane-propane) gases. Long past the talking stage in many instances, many fleets have installed

test vehicles in a move to check up on advantages promised with this type fuel. Some bus companies are even now in the process of changing over to LP gas equipped vehicles—either through converting their regular en-

gines or by purchasing new equipment. Many fleets have indicated an interest in learning just how the fuel system functions—what it looks like—so that they may be better equipped to handle maintenance when overhaul and rebuild of fuel system parts become necessary. Manufacturers of conversion units as well as fuel suppliers have cooperated with CCJ to provide up to date information on the subject. This article will show how the gas is utilized.

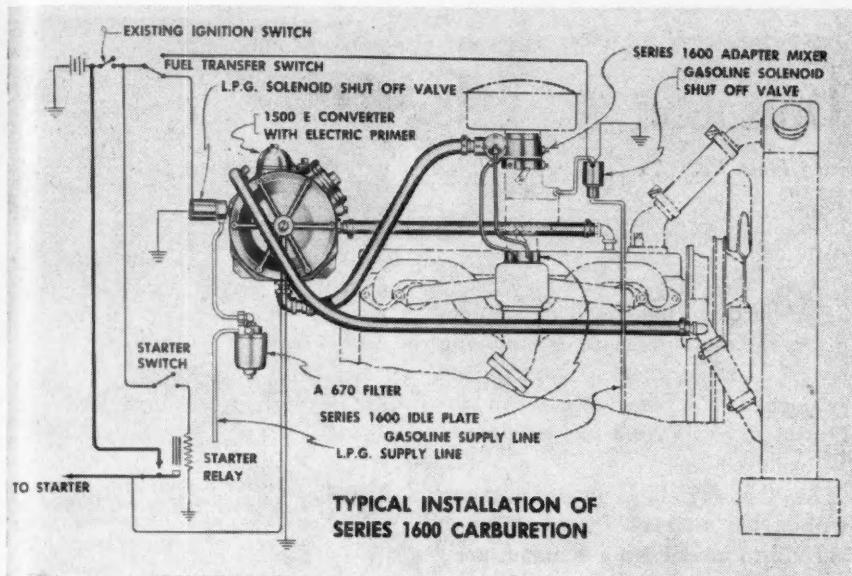
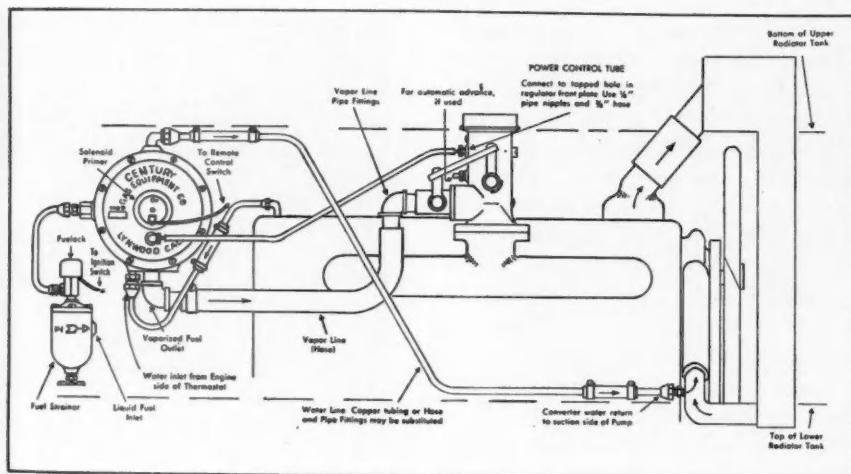


Fig. 2. Typical installation of LP carburetion made by American Liquid Gas Corp., showing converter, carburetor, fuel filter and water line connections at engine

Fig. 3. Diagram showing installation of the Century Gas Equipment Co.'s conversion units on a typical automotive engine



Operation

Principles of Operation

LIQUEFIED petroleum gases are relatively easy to distribute, carburate and burn in a reciprocating engine, and in many respects permit a simpler fuel system than that of the gasoline counterpart. The fuel is under pressure at the tank (pressure being held in direct proportion to the temperature of the gas).

Thus no fuel pump is required. The carburetor is a simple mixing device and no complicated jets or orifices

are necessary as in the case of the gasoline carburetor. A simplified nozzle and venturi system has been found to provide fine working mixtures without the fuel becoming stratified in the air. Air and gaseous LP gas form an excellent mixture which will distribute more evenly to the individual intake ports than gasoline has ever been able to do.

Because the range of flammability of LP gas is quite narrow, air-fuel ratios are somewhat more diffi-

cult to maintain than in a gasoline carburetor. The engine will not fire if the mixture is off too far—either too lean or too rich. However, once the LP gas mixtures are correct for combustion, the fuel burns efficiently, leaving no residue as is characteristic of gasoline or diesel fuel. This accounts in part for the fact that carbon and soot is practically non-existent in LP gas-equipped engines, that oil mileage can be increased appreciably and that carbon monoxide fumes are absent from the exhaust. It has been estimated that with proper use of propane in high compression engines an operator can expect 10 to 15 per cent more power with about the same fuel consumption as obtained from gasoline.

Propane and butane fuels are gases at atmospheric conditions, liquefied and contained under pressure for convenience in storage and handling. Thus they are ideal fuels for burning in internal combustion engines, mix readily with air and enter the combustion chamber as a high volatile charge, ready for immediate and complete combustion. The liquefied gas, however, is stored under 20 to 175 lb per sq in. pressure in the vehicle tank and must be brought down to a working pressure of from 4 to 10 lb before it can be used in the engine. At the outset it would seem that the vapor from the top of the tank could be used directly, without the necessity of adding a vaporizing unit. However, a more uniform result can be attained when liquid fuel is used because vapor in sufficient quantities is not always available for maximum loads, especially with low temperatures or when the fuel content in the supply tank is low.

To assure a constant supply of gas vapor at the carburetor, and also to keep the fuel system from freezing up under the rapid expansion of gases,

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LP Gas—Principles of Operation

Continued from Page 71

a vaporizing device is incorporated into the fuel system of the LP gas engine. Engine coolant is usually piped through a system of coils approximate to a gas chamber, which increases the temperature of the gas, thus reducing its pressure to a predetermined working level. In many designs the vaporizer is incorporated with a high pressure and a low pressure regulating unit called a converter. When this is done, high pressure liquid fuel arrives at the primary regulating valve, where major expansion occurs. Then it is heated and converted into a dry gas for further reduction in pressure to slightly below atmospheric pressure, ready for mixing with air in the carburetor on the first suction stroke of the engine.

Thus there are four separate stages in the utilization of liquid petroleum gases for automotive engines: 1. The fuel is dropped from tank pressure to a working pressure of from 4 to 10 lb with a high pressure regulator. 2. Heat is applied to the expanding fuel through a vaporizer connected to the engine cooling system. 3. A low pressure regulating device further reduces the pressure to slightly below atmospheric, permitting vaporized fuel to be made available to the carburetor as required. 4. The fuel is mixed with proper volume of air and measured out to the engine for the entire range of speeds and loads.

The drawing, Fig. 1, will show the operation of the Ensign type regulating unit, which is similar to several other makes in operating principles. In the right hand drawing, the high pressure regulator is located at the left; the vaporizer is in the center, and the low pressure regulating device is located on the right.

Engine Regulating Unit

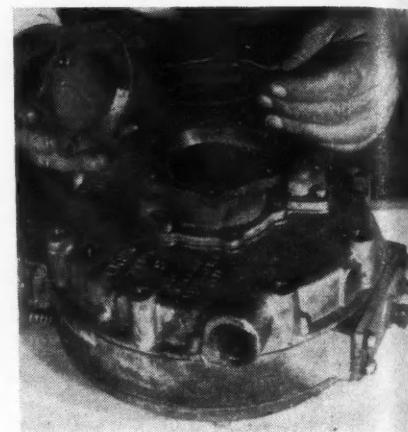
UPON the downward stroke of the piston (refer to Fig. 1), engine vacuum works against the large area diaphragm 4 through orifice 5 and

34 in partition plate 6. This vacuum draws the diaphragm inward, moving levers 7 and 8, thereby opening the secondary or dry gas valve 3, and permitting dry vaporized fuel within coil 13 to flow.

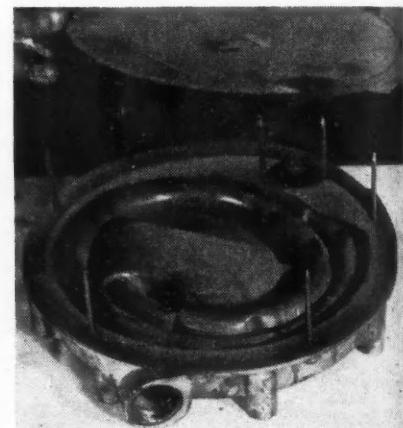
As the dry fuel under pressure within the coil is forced through valve 3 to meet engine demand, pressure within the coil decreases slightly. This reduction in pressure reacts on the underside of the high pressure diaphragm 9 allowing springs 10 and 11 to move the diaphragm 9 inward, opening the high pressure or primary liquid valve 2. This allows liquid fuel to pass through valve 2 through vapor expansion chamber 12 and into coil 13 to maintain the pressure within the coil. Both primary valve 2 and secondary valve 3 are constantly in motion to satisfy automatically every requirement of the engine. Diaphragm areas, valve springs and orifices are sized to this demand.

In the Ensign unit a booster actuated by engine lubricating oil pressure increases the output of the unit for fast acceleration and peak loads. The flow of liquid fuel through the primary valve 2 is controlled by a diaphragm 9, springs 10 and 11 and by engine lubricating oil pressure on diaphragm 14. Oil line connection is made at 33.

With tank pressure at fuel inlet 1, but with a dead engine, spring 11 exerts force enough to cause one pound of pressure within the coil. One pound pressure is sufficient for starting the engine but not enough for normal operation. Therefore, in order to achieve this low one pound lock-up when the engine is dead and also to provide a pressure within the coil 10 lb for ordinary running conditions, an extra outside force supplementing spring 11 is necessary. Oil pressure is applied to diaphragm 14 which compresses spring 10 as the engine starts and allows more fuel to flow past valve 2 until a pressure of 10 lb within the coil is reached. All pressure in excess of 10 lb is ineffec-



Step 1. Booster diaphragm is removed after top plate has been detached

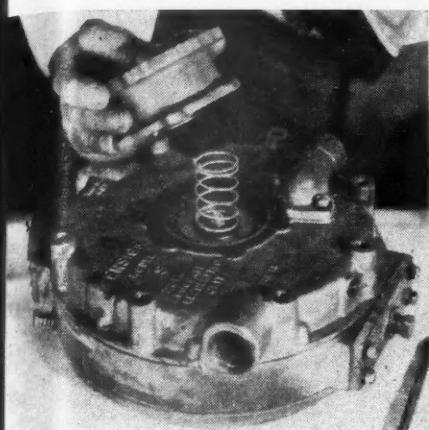


Step 5. Heat exchanger is separated providing access to circulating coil

tive since shoulder stop 15 limits the travel of diaphragm 14.

Fuel for idle is taken from two sources. A small amount of idle fuel is taken from main gas outlet 16, thereby maintaining at all times a slight flow toward the engine under all running conditions. The remainder of the fuel for idling is taken through outlet 17 to a point above the carburetor throttle under the manifold vacuum. Accurate control of the total fuel used for idle is accomplished through jet 18 and adjusting screw 19. Partition plate 6 separates the main fuel chamber 20 from idle fuel chamber 29.

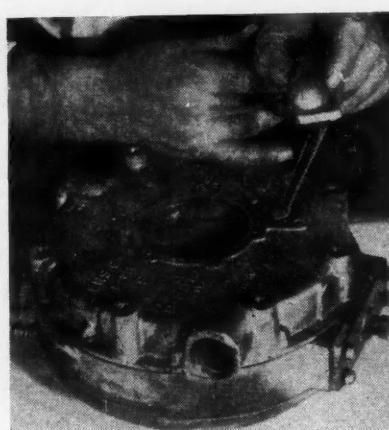
Normal carburetor air cleaner performance retards the flow of air through the carburetor, making for over-rich mixtures. To compensate



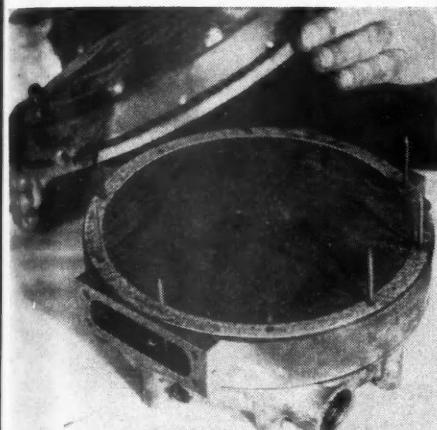
Step 2. Housing is disassembled giving access to diaphragm spring assembly



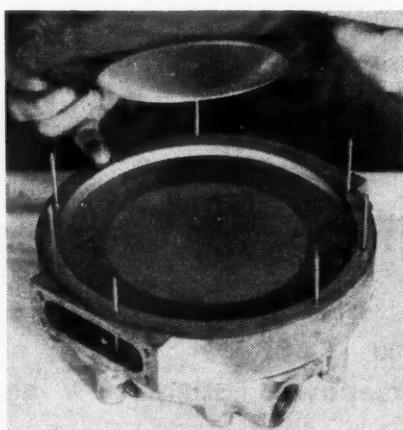
Step 3. Diaphragm is removed to show contact which operates liquid valve



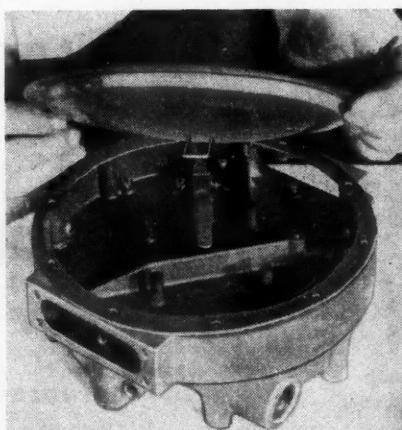
Step 4. Fuel outlet with primary control valve are lifted from their seats



Step 6. Housing cover is removed from regulator to show diaphragm



Step 7. Fabric diaphragm is lifted to show support plate and spring seat



Step 8. Main low pressure diaphragm opens to show fuel chamber and valve

for this and other air entrance losses, Ensign employs the "balance line," a tube extending from the carburetor air horn to the back side of the main low pressure diaphragm. This balance line effects a reduction in gas flow to correspond to the reduced air flow, Diaphragm 30 and spring 31, which is supported on plate 32, function together with balance line depression at 28 to make for any rapid movement necessary of the main low pressure diaphragm 4, to facilitate good engine acceleration.

In starting a cold engine a sufficient differential in temperature exists between the expanding fuel and the water surrounding the expansion chamber and valve 2, to provide the initial heat of vaporization. This dif-

ferential in temperature is more than ample to vaporize the fuel within the coil until the engine water temperature, controlled by a thermostat, begins to heat up the engine.

Vaporized fuel is supplied through coil 13 to the low pressure or main valve 3 located in reserve chamber 20, where it is further reduced to slightly below atmospheric pressure, and from this reserve chamber it is taken to the carburetor through outlet 16 by engine suction.

The Carburetor

THE final pressure regulator serves much the same purpose as the float in a gasoline carburetor, regulating the supply of gas to the carburetor and shutting off the fuel when the

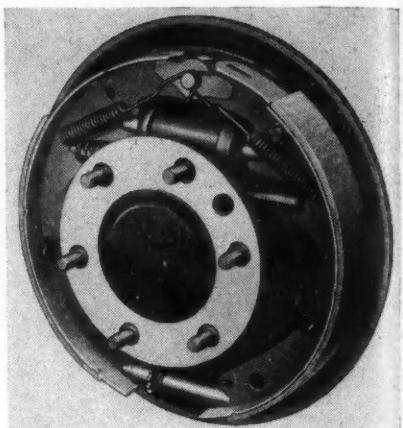
engine is stopped. This and the carburetor are designed to work together and must be balanced to provide the correct air-fuel ratio from 12.8 to one at idle to 14.5 to one and at cruising speeds. Some carburetors are equipped with easy starting devices which are a separate air-gas mixing device through which a predetermined starting mixture is metered out with the pull of the choke lever. A separate adjustment is provided.

In the Ensign carburetor a venturi and a gas nozzle are used to atomize the mixture. A main load adjusting screw controls the flow of gas to the venturi nozzle, while a vacuum-actuated diaphragm operating on a secondary gas passage comprises an

(TURN TO PAGE 128, PLEASE)



The light-duty line ranges from 4800 to 16,000 lb gvw, and from 22,000 to 26,000 gcw. Model designations now indicate the basic chassis in terms of progression of gross ratings.



Service brakes on Model 100-22 are of the Duo-Servo type and front brakes have been widened by $\frac{1}{4}$ in.

'51 Light GMC's

Carry Simplified Model Identification

**Increased horsepower ratings, new inlet manifolds,
two-piece valve lifters, improved brakes featured**

INITIAL ANNOUNCEMENT of 1951 models by GMC Truck & Coach Div., General Motors Corp., covers the introduction of light-duty models ranging from 4800 to 16,000 lb. gvw; and 22,000 to 26,000 lb. gcw. To simplify the selection of vehicles suited to the requirements of individual users, new model designations replace the corresponding model designations used heretofore—from FC-100 to FF-350. Model designations indicate the basic chassis in terms of progression of gross ratings, while the figures at the right designate the engine supplied as standard equipment for each model. Thus in the case of light-duty models described here, the numerals "22" indicate the 228 engine, while "24" indicates the 248 engine.

Maximum bhp has been increased by four bhp on both the 228 and 248

Light-Duty Models

Corresponding 1950 Model	1951 Models	1951 NEW GVW	GCW
FC-100	100-22	4,800*	.....
FC-150	150-22	5,800	.....
FP-152	P150-22	7,000	.....
FC-250	250-22	8,800	.....
FC-280	280-22	11,000	.....
FC-300	300-24	14,000	22,000
FCS-300	S300-24	14,500	.....
FC-350	350-24	16,000	26,000
FF-350	F350-24	16,000	26,000

* Only Change in Rating.

engines. Thus, the 228 now is rated 100 bhp at 3400 rpm; while the 248 has been upped to 114 bhp at 3600 rpm. Maximum torque remains the same—182 lb ft at 1200-2000 rpm for the 228 and 202 lb ft at 1200-1400 rpm for the 248.

Both engines are equipped with new inlet manifolds providing increased power and improved fuel economy. The vaporizer in the center of the inlet manifold has been

reduced in area to better control pre-heating of the fuel charge and increase volumetric efficiency.

Valve lifters have been changed to a 2-piece type which permits shortening of valve push rods. The lower end of the push rod now rests on top of the valve lifter instead of in the bottom of valve lifter cavity. Shortening of the valve push rod reduces deflection and provides better valve timing at the higher engine speeds.

Engine oil pressure gage line has been shortened to permit reading of correct oil pressure in extremely cold weather in a shorter time after the engine is started.

On the 228 engine only, some special features have been added to permit safer high-speed operation. In the main, these consist of providing

(TURN TO PAGE 96, PLEASE)

On Any Truck



When You Carry Overloads—You need



Greater Power Brake Capacity!



(You Can Be Sure with)

Bendix
HYDROVAC

WORLD'S MOST WIDELY USED POWER BRAKE

BECAUSE IT'S **"Load Rated!"**

Bendix
PRODUCTS DIVISION
SOUTH BEND
INDIANA

No matter what type of trucks you operate, it's just common sense to install the *right* power brake for the job. That's why you owe it to yourself to talk to your Bendix Vacuum Power dealer. He can give you sound reasons why Bendix* Hydrovac offers greater economy and flexibility on any job—his statements are based on fact, too, because Hydrovac is the world's most widely used power brake. Make it a point to see your Bendix Vacuum Power dealer soon; because we believe that when you get the facts you'll be solidly sold on Bendix "Load-Rated" Power Brakes.



Export Sales: Bendix International Division, 72 Fifth Avenue, N. Y. 11, N. Y. • Canadian Sales: Bendix-Eclipse of Canada, Ltd., Windsor, Ontario, Canada

free PUBLICATIONS

A selected list of the latest literature —
catalogs, pamphlets, charts—chosen to help
fleetmen improve operation and maintenance.

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POSTCARD

L59. Transmission Data

The new issue of Lubrication features a comprehensive discussion of the Chevrolet Powerglide transmission, covering the design, operation and lubrication of this new assembly. Written in semi-technical style, but covering the operation clearly from every aspect, this article is well worth careful study. Complete with cut-away drawings, photographs and line drawings of each component, this 12-page booklet will be valuable to those fleets who are using this type transmission. Again, it might be well to read up on the technical aspects of the automatic assembly as indications point to the fact that such a transmission may be used on light trucks in the future. Just write L59 on the postcard and make this booklet available to all your mechanics.

L60. Operating Record Log

A new edition of a record book to aid heavy-duty truck owners in keeping a day by day record of their operation costs has just been published by the Autocar Co. The book is made up of 12 double-page cost sheets, one for each month, and space is provided for a truck's daily record of miles travelled of trips, units carried, unit miles, fixed charges, drivers' wages, gasoline and oil costs, garaging, tire costs, etc.

For your copy just write L60 on the accompanying postcard.

L61. Welding Manual

First in the Eutectic National Defense Series of technical handbooks this 44-page manual will provide the fleetman with the latest develop-

ments in welding materials and techniques with special reference to applications for defense production and maintenance. In addition to technical data on characteristics, properties and applications and operational procedures for various alloys and fluxes, the manual contains handy, compact information on the art of welding and all its phases.

Among the subjects covered are: the advantages of various methods of heating; fluxing and removal of flux; inspection and control; Eutectic applications and data. Diagrams, charts and procedure outlines help to make this manual workable and interesting.

Write L61 on the accompanying postcard for a free copy of this manual.

L62. Trucking Data

The American Trucking Associations has made available the 1950 edition of its fact-filled booklet "Trends," showing year-to-year changes in numerous phases of truck operation.

The booklet contains 44 pages of information on the trend in truck registrations, tonnage and ton-miles, taxes, wages, employment, average load, average haul, and many other significant factors concerning motor carrier operations. Much of the data are taken from official annual reports of the 2728 Class 1 motor carriers—those with annual gross revenues of \$100,000 or more—to the Interstate Commerce Commission. Regional breakdowns of this information make it impossible to see at a glance the great differences in the truck operating characteristics in different parts of the country.

The booklet shows wages paid by the trucking industry. It points out that

America's 8,000,000 motor trucks, of all types, sizes and weights are performing more than 90 billion ton-miles of service annually and carry approximately 60 per cent of the total tonnage moved in the nation's commerce. It also shows total truck registration each year from 1904 through 1949; truck registrations by states from 1945 to 1949; truck vehicle-miles over all rural roads; truck production by years; truck-trailer production from 1939 through 1949.

Write L62 on the postcard for a copy.

L63. Valve Rotator Data

Here is a publication that has long been needed in the truck fleet field. This 64-page booklet provides a complete list of the applications of rotator assemblies for all truck and bus applications, gasoline and diesel engine installations as well as for farm tractors. Lists of part numbers are included for the valve rotators and associated parts that are available through various engine and vehicle manufacturers as well as those available through the automotive service parts houses. In addition, the addresses of the branches and warehouses of the parts companies and engine makers are provided.

The tabulation of parts numbers is arranged by both vehicle and engine manufacturer. The type of rotator used in each case is identified, and valve part numbers are shown for the most suitable valve supplied by the particular engine or valve manufacturer.

In view of the fact that exhaust valve rotation has now been adopted as either a production standard or service replacement by practically all engine builders, this reference is indeed a valuable asset to the truck operator. Write L63 on the accompanying postcard for your copy.

FOR YOUR
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POSTCARD

NEW PRODUCTS

Illustrating and reviewing newest developments

in parts, accessories, shop equipment and tools.

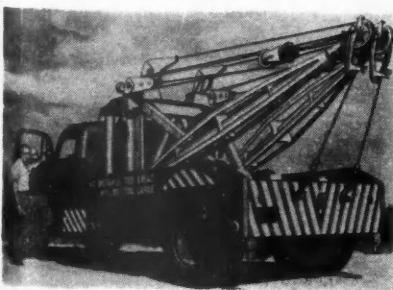
For more information use the attached postcard.

P76. Tube Cutter

Designed for efficiency and economy, this tool will cut any copper, brass, bronze or similar soft tubing from $\frac{1}{8}$ in. to 1 in. in diameter. Heat-treated, the tool steel cutter wheel has razor edge to insure a clean cut. Reamer is constructed to set flush against tool when not in use. Turns to 90 deg angle during reaming operation. Cal-Van Machine Products, Inc., Jackson, Mich.

P77. Heavy-Duty Wrecker

The new Holmes Model 850 heavy-duty wrecker has a boom capacity of 15 tons and a pulling capacity of 35 tons. Booms are raised and lowered by power. The two service drums are independently power operated to work either forward or reverse by individual self locking worm gear mechanisms. The



service drums can be de-clutched and free-wheeled for pulling out loose cable by hand. The driving mechanisms which operates the drums has two speeds, one for fast reeling in of loose cable and the other for slow movement on heavy and critical pulls. The Ernest Holmes Co., Chattanooga, Tenn.

P78. Impact Wrench

A new Thor $\frac{5}{8}$ -in. "Silver Line" universal electric impact wrench has been designed for heavy-duty nut setting jobs. Operating at 2000 rpm, the wrench delivers 1850 impact blows per minute both forward and reverse.

Weighing slightly over 12 lb and measuring $11\frac{3}{4}$ in. overall, the new tool is equipped with a detachable dead handle for easier handling, an exclusive Thor feature unavailable on any other impact tool. Independent Pneumatic Tool Co., Aurora, Ill.

Late Product Flashes

A hydraulic scoop accessory for lift trucks developed by TOWMOTOR CORP., Cleveland, Ohio, picks up, transports and dumps bulk materials such as coal, sand, cement, scrap and many other similar items.

A new 15-in. bolt cutter with a capacity equal to that of a standard 18-in. cutter has just been developed by MANCO MFG. CO., Bradley, Ill.

Yellow and black danger striping can now be applied to any type surface with decals at a fraction of the hand-painting time and cost, in new strips available from MEYERCORD CO., Chicago.

The Schrader No. 4718K Gage Clamp-Airline Kit built by A. SCHRADER'S SON DIVISION, Brooklyn, N. Y., permits converting regular air lines into handy, gaging and inflating equipment.

A new medium to heavy-duty steam cleaning compound called Blast has been introduced by The DuBois Co., Cincinnati.

A new design in wrenches in all sizes of combination and open-end is now being marketed by BONNEY FORCE & TOOL WORKS, Allentown, Pa.

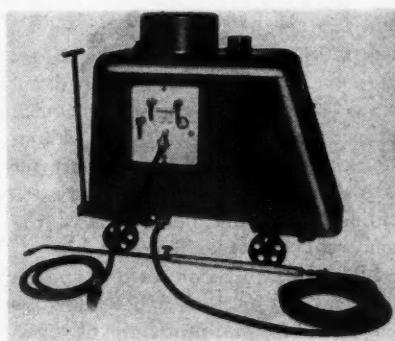
A complete line of steel shop boxes for use in all kinds of shops, stockrooms, assembly lines and industrial plants are available in five different styles from LYON METAL PRODUCTS, INC., Aurora, Ill.

P79. Heavy-Duty Motor Oil

A new motor oil said to reduce sludge deposits and engine wear is now being marketed by the Gulf Oil Corp. Originally developed for use in both high-speed diesel and gasoline engines under heavy-duty service conditions, Gulf-lube Motor Oil X. H. D. is said to be even more effective in light duty service such as taxicab, bakery, and dairy fleet operations, where low temperature engine deposits and mayonnaise-type sludge has confronted operators.

P80. Cleaner-Flusher

A new combination steam cleaner and automotive cooling system flusher, known as Model JO Hypopressure Jenny



with built-in Steam Thoro-Purge, features: an oil-fired, electric-motor-driven steam cleaner which operates at 80 to 120 lb pressure, and 90 gal per hr water capacity; a cleaner that reverse flushes complete cooling systems, including radiator, engine block and water-type heaters, in one operation. Hypopressure Jenny Div., Homestead Valve Mfg. Co., Coraopolis, Pa.

(TURN TO NEXT PAGE, PLEASE)

New Product Descriptions

Continued from Page 77

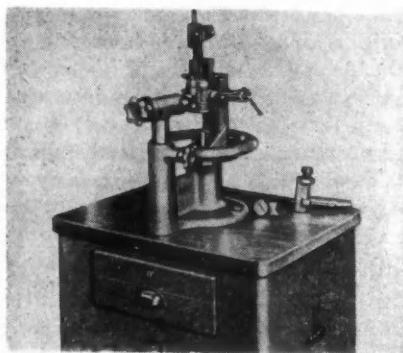
P81. Signal Combination

Parker Products, Inc., Minneapolis, Minn., is featuring a 2500 Series self-cancelling, semi-automatic master control switch in its turn signal sets for commercial vehicles. Sets include the new class "A" 900 Series bracket and flush-type flashing lamps, self-cancelling switch, wire and all necessary installation hardware.

Large diameter lenses and polished aluminum reflectors are used. They are rust-proof, shake-proof as well as dust-proof and are fitted with sturdy brackets for easy installation on any vehicle.

P82. Piston Knurler

A dual purpose machine, recently introduced by Burd Piston Ring Co., Rockford, Ill., provides both piston knurling and re-grooving operations



from the single piece of equipment. Features include a capacity for either aluminum or cast iron pistons in diameters 3 in. to 4½ in., and a mechanism that permits knurling with or without connecting rods attached. Support for the piston skirt is assured by an expanding arbor that bears against the inner wall surfaces. The machine is readily adjustable for various piston types and sizes. A dial indicator for accurately determining height of knurl is furnished.

P83. "Heliarc" Torch

A lightweight, air-cooled Heliarc torch for inert gas-shielded arc welding is announced by The Linde Air Products Co., of New York. The torch, which has a two-position welding head and needs no water cooling, has a maximum current capacity for continuous duty of 75 amp. It is designed for welding thin-gage materials.

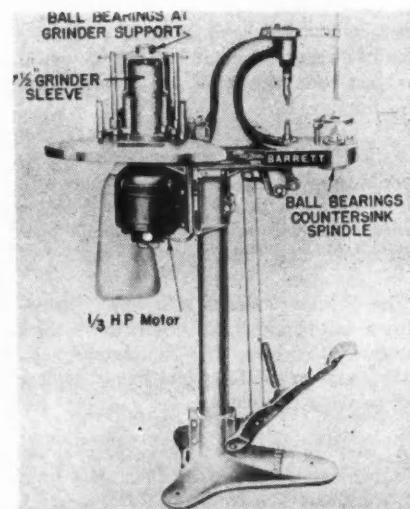
The new torch, the HW-9, has a torch head and handle assembly weighing 3 oz. In normal welding operations the torch head is at a 120 deg downward angle from the handle, as shown in the accompanying illustration. By interchanging the collet nut and torch cap, which is possible with this torch, the angle of the torch head can be changed to a 60 deg backward angle from the handle. This permits making welds in tight spots, formerly inaccessible.

P84. LP Gas Torch

The new portable LP gas torch features instant lighting and a cartridge refill. Equipped with interchangeable burners, the torch lights without pre-heating and is said to reach a flame temperature of 3660 deg F. Fully loaded, the torch weighs less than 2½ lb. The Otto Bernz Co., Inc., Rochester, N.Y.

P85. Brake Reliner-Grinder

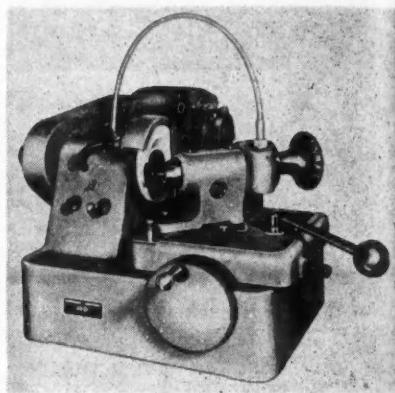
An improved heavy-duty brake reliner and grinder has been announced by the Barrett Equipment Co., St. Louis, Mo. It is now equipped with heavy ball bearings at grinder support and countersink spindle. It has a new



simplified countersink depth adjustment which can be made while machine is operating, and has an improved belt adjustment. In addition, the grinder now has a 7½-in. abrasive sleeve which is big enough to accommodate the largest truck shoe. A heavy-duty 1/3 hp motor is now standard.

P86. Wet Valve Grinder

A wet valve refacer, Model K403, built by the K. O. Lee Co., Aberdeen, S. D., V-ways tables with automatic take-up for wear. It grinds wet or dry and is equipped with a large 5-in. grinding wheel. Valve face angle range is from zero to 90 deg with positive-stop feature and minus one deg setting.

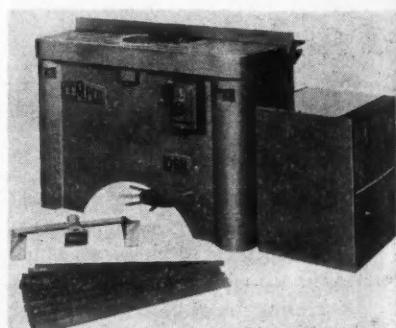


Standard equipment includes a V-rest for butt grinding, universal rocker arm grinding attachment and diamond dresser.

Valve stem capacity is 9/32 in. to 9/16 in. with standard equipment collet and can be increased for a range of 1/4 in. to 11/16 in. with extra equipment collets. It will reface valves with heads up to 3½ in. diameter within the valve stem range.

P87. Dry Surface Grinder

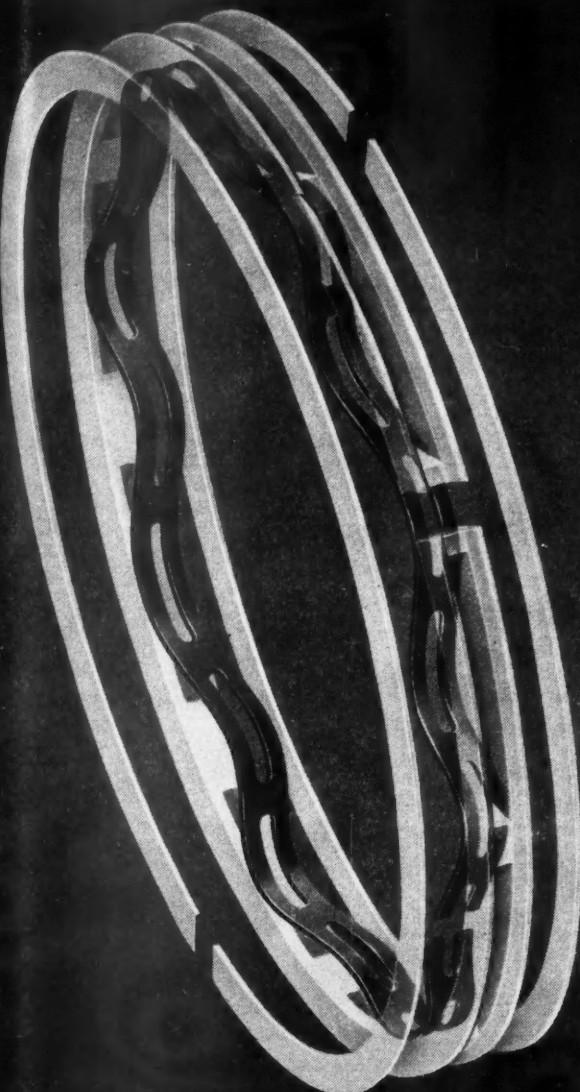
A dry surface grinder with new dust control features introduced by Lempco Products, Inc., of Bedford, Ohio, combines air suction, fire glass air filter and a new and exclusive continuous waterfall flushing system that filters the air.



The grinder has a heavily ribbed cast steel table top which can be set or tilted at a slight angle to grinding wheel. Grinding wheel has 14 in. O. D. and is 2 in. thick and powered by 3 hp motor. Air suction is generated by high speed propeller type fan that pulls air through the wheel opening and directs it through fibre glass filter.

(TURN TO PAGE 144, PLEASE)

Sealed Power Piston Rings



Sealed Power

MD-50 STEEL OIL RING

The only ring with the Full-Flow Spring

Best for Oil Control even in

**BADLY TAPERED and
OUT-OF-ROUND BORES**



SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

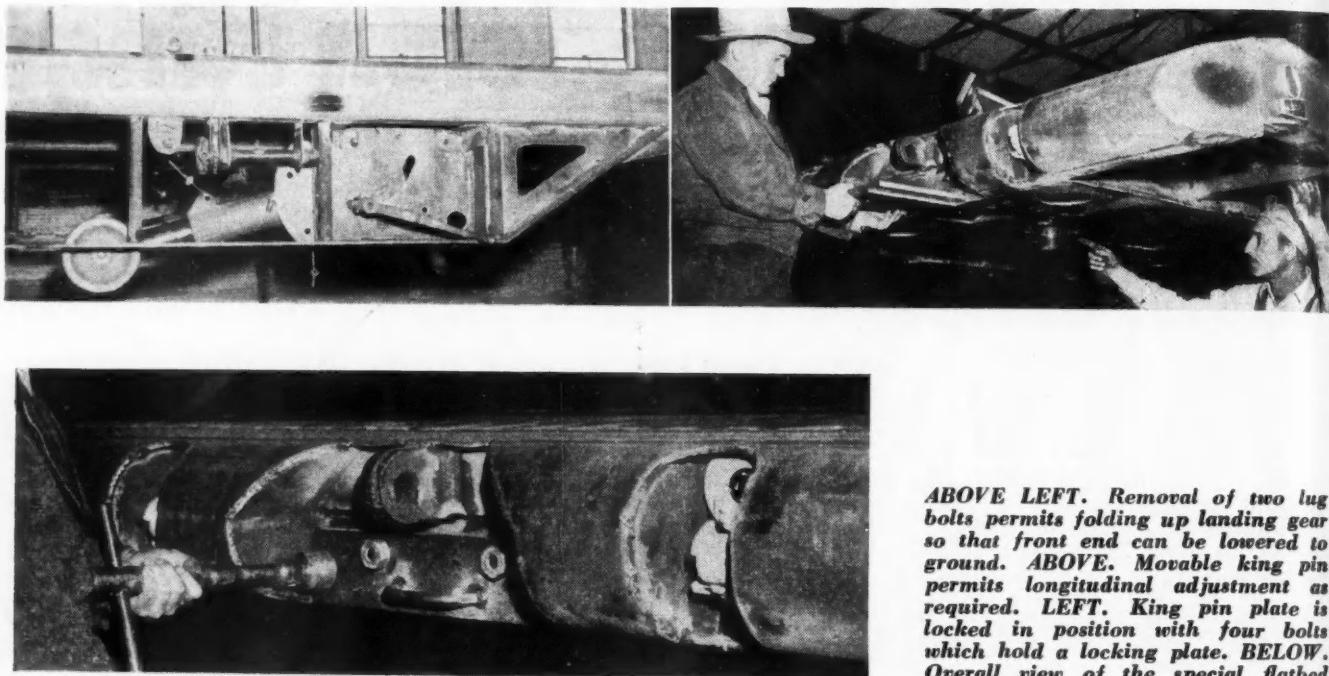
BEST IN NEW TRUCKS

BEST IN OLD TRUCKS



Sealed Power
CHROME-FACED
RINGS
For Triple Mileage

THE LATEST SCIENTIFIC
DEVELOPMENT TO COMBAT HEAT,
FRICTION, CORROSION, ABRASION



ABOVE LEFT. Removal of two lug bolts permits folding up landing gear so that front end can be lowered to ground. *ABOVE.* Movable king pin permits longitudinal adjustment as required. *LEFT.* King pin plate is locked in position with four bolts which hold a locking plate. *BELow.* Overall view of the special flatbed

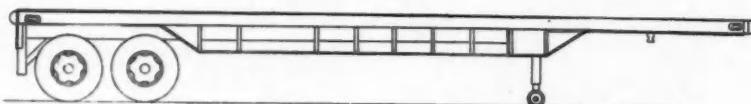
UNIQUE FLATBED

Kneels for Loading

By Herman Frank

Shop foreman Northern Pacific Transport Co.

Heavy-duty flatbed semi-trailer for transporting bulky equipment features adjustable fifth wheel pin, self-loading arrangement



HERE in the Northern Pacific Transport shop at Billings, Mont., we have built two tandem axle heavy-duty flatbed semi-trailers for hauling unusually heavy or bulky equipment such as tractors, cats, power plants and machinery. The trailer is unique in that the front end can be lowered

to the ground to serve as a ramp, thus permitting the driving on of such equipment directly from the ground. After loading with up to 20 tons, the trailer is raised by means of a winch on the tractor and the operation is completed.

The landing dollies are so con-

structed that they may be used in the conventional manner by being raised or lowered vertically with a hand crank at the side. However, removal of two lug bolts on either side of the trailer permits the entire dolly assembly to be swung to the rear and upward, thus allowing the nose and the front of the truss side rails to rest on the ground.

A movable king pin permits longitudinal adjustment front and rear as required for various types of tractors. The king pin is welded to a steel plate with side guides making it possible to slide it in and out after removing the locking plate shown above. Adjustment for position is accomplished by inserting various lengths of steel positioning blocks either before or aft as required. The whole assembly then, consisting of the fifth wheel pin plate, the guide fore and the positioning guide aft, is locked in position with four studs which hold the front lock plate.

STUDEBAKER TRUCKS CUT COSTS PLENTY!

Available in a wide range of
popular sizes and wheelbases!



Extra money's worth everywhere!

Big visibility cab with head room, hip room, leg room for three . . . Fully enclosed safety steps . . . "Lift-the-hood" accessibility to engine, ignition, instrument panel wiring . . . Adjustable seat with "finger-tip" control . . . Adjusto-Air seat cushion . . . Two foot-controlled floor ventilators . . . Two built-in window wings . . . Dual windshield wipers . . . Two arm rests and sun visors . . . Cab light with hand and automatic door switches . . . Rheostat controlled instrument lights . . . Automatic "hold-open" door stops . . . Tight-gripping rotary door latches . . . Metal-lined door panels . . . Metal dash compartment . . . Automatic spark control and octane selector . . . Extra strong K-member front frame reinforcement . . . Full box-section cross members . . . Rugged, easy-riding springs . . . Shock-proof cross link steering with variable-ratio for easier turn-arounds and parking.



Every comfort for the driver!

Snug warmth inside the roomy Studebaker cab is assured by the unique Studebaker Truck Climatizer. Available at extra cost, the Climatizer heats, ventilates and defrosts—and keeps the air fresh constantly.

STUDEBAKER TRUCKS

NOTED FOR LOW COST OPERATION

The Studebaker Corporation, South Bend 27, Indiana, U. S. A.

New Truck Registrations by Makes by States*

STATE		Auto-car	Brock-way	Chevrolet	Diamond T	Divco	Dodge	Federal	Ford	FWD	GMC	International	Ken-worth	Mack	Pontiac	Reo	Sterling	Stude-baker	White	Willys	All Others	Total		
Alabama	October	1	1156	11	3	232	882	238	145	18	1	88	18	48	3	2,842								
	10 Mos.	6	8283	29	19	1405	4	6358	1789	1474	13	17	847	178	48	1	21,041							
Arizona	October		264				82	155	1	61	47	2	6	15	9	15	1	638						
	10 Mos.		2161	8	11	447	6	1648	3	618	409	7	15	11	6	3	297	31	236	12	5,927			
Arkansas	October		1181	2		230	790	278	115	1	1	4	120	3	50	1	2,776							
California	October	8	2145	43	43	748	5	1642	4	613	375	24	24	4	13	10	222	85	223	39	6,270			
	10 Mos.	104	8	21624	310	423	4754	27	15127	37	5665	3958	172	226	49	112	74	2678	423	1238	274	57,293		
Colorado	October		495	5	5	96	341	1	109	54	11	3	44	3	33	1	1,201							
Connecticut	October	10	6	302	13	11	111	10	223	59	77	19	15	15	26	22	28	43	433	44	13,085			
	10 Mos.	41	52	2536	81	102	713	69	1951	2	577	762	187	19	48	9	318	128	237	22	1,933			
Delaware	October		1	91			15	84	17	14	9	9	238											
	10 Mos.	10	10	1017	15	4	191	811	182	259	7	8	4	87	19	46	11	2,681						
Dist. of Col.	October	3	129	3	10	34	89	36	34	4	3	6	3	3	6	12	3	366						
	10 Mos.	15	4	1001	17	59	208	10	640	233	233	31	8	19	36	25	46	4	2,539					
Florida	October		753	9	2	252	568	142	106	18	8	1	75	17	98	12	2,061							
	10 Mos.	8	2	7103	105	61	19 8	10	6116	1294	1344	289	19	91	1	1207	169	835	69	20,821				
Georgia	October		1	985	1	221	1	735	201	88	16	4	68	18	33	2,372								
	10 Mos.	2	4	11169	40	24	2482	31	948	2112	2167	1	184	13	87	1429	238	403	19	29,824				
Idaho	October		236	9	56	1	188	84	57	3	5	2	1	47	41	2	732							
	10 Mos.	6	2540	44	4	456	12	1624	3	886	725	50	28	4	28	1	403	36	408	17	7,289			
Illinois	October	2	1424	55	15	488	1	1048	244	438	4	1	13	100	40	59	3	3,933						
	10 Mos.	67	6	15521	501	150	3740	24	11012	6	2801	4987	231	58	120	4	1539	501	521	74	41,943			
Indiana	October	1	1023	4	4	271	1	941	146	239	9	1	8	96	56	51	2	2,884						
	10 Mos.	18	3	8196	90	77	1863	26	7206	2	1523	2838	71	26	77	1323	359	375	45	24,118				
Iowa	October		842	9	3	205	1	706	107	187	6	7	71	12	31	1	2,168							
	10 Mos.	2	9177	108	46	1788	3	7068	1268	2889	71	18	51	880	144	280	14	23,763						
Kansas	October		842	9		138	1	619	139	124	2	3	84	4	51	2,019								
	10 Mos.	7470	54	21	1095	7	5273	1	1452	2074	20	31	51	683	69	298	5	16,604						
Kentucky	October		779	7	3	136	3	531	205	87	3	2	2	47	7	53	1	1,886						
	10 Mos.	4	8300	72	42	1362	16	5852	2115	1855	29	33	24	1	732	78	680	7	21,202					
Louisiana	October		697	6		140	674	170	94	2	1	1	49	13	16	2,085								
	10 Mos.	7	6854	50	4	1283	3	5804	1	1779	1266	31	16	17	934	87	356	19	18,311					
Maine	October	1	2	163		41	2	133	61	34	2	1	27	4	19	490								
	10 Mos.	12	19	2244	7	5	525	13	1341	704	748	72	17	9	1	294	43	203	5	6,282				
Maryland	October	2	5	408	2	3	144	8	394	81	78	5	1	18	14	25	4	1,199						
	10 Mos.	18	66	3828	43	77	1031	58	3077	1	686	1018	114	11	48	3	284	143	128	14	10,748			
Massachusetts	October	28	16	491	20	7	250	8	408	133	138	19	3	28	5	64	27	1,701						
	10 Mos.	212	137	4857	170	138	1734	41	3721	1101	1523	328	62	123	73	718	347	250	25	15,869				
Michigan	October	7	1723	12	28	539	2	1472	285	159	17	38	86	18	51	1	4,438							
	10 Mos.	27	1	15392	118	250	3309	108	13795	2	2545	2476	202	26	234	988	225	359	24	40,060				
Minnesota	October		757	11	4	209	622	1	118	188	6	4	110	21	37	1	2,088							
	10 Mos.	4	8217	104	98	1736	14	6527	13	1393	2793	35	81	28	32	1433	126	303	36	22,973				
Mississippi	October		611	4		189	623	231	107	2	1	4	46	3	35	2,056								
	10 Mos.	1	6176	14	1	1258	4	5014	1	2027	1279	29	19	14	771	58	274	8	17,746					
Missouri	October		2436	29	22	578	10	1875	3	685	1059	22	7	4	10	201	103	91	6,070					
	10 Mos.	6	13963	79	53	2470	2	8891	2	2939	2869	3	113	21	70	1237	341	433	36	33,008				
Montana	October		334	5	1	71	202	69	95	2	3	2	40	2	2	40	2	53	1	882				
	10 Mos.	3199	42	50	2	578	10	1975	3	685	1059	22	7	4	35	458	17	601	10	8,713				
Nebraska	October		575	24	2	121	445	2	148	88	9	8	8	53	21	48	1,539							
	10 Mos.	5896	191	18	901	3	4490	10	1202	1739	37	23	11	27	621	97	412	13	15,691					
Nevada	October		33	1		11	46	28	6	46	3	1	3	3	8	135								
	10 Mos.	525	4		103		378	1	125	17	5	5	1	8	4	1,531								
New Hampshire	October	1	75	1	1	18	79	1	25	17	5	5	1	8	4	2,680								
	10 Mos.	12	9	1003	15	11	386	3	748	1	308	348	78	6	40	1	143	21	101	3	3,235			
New Jersey	October	21	44	691	32	17	243	14	720	176	151	39	3	12	1	45	52	42	2,306					
	10 Mos.	161	271	7225	231	211	2035	67	6118	10	2027	2147	475	100	72	13	699	430	488	28	23,315			
New Mexico	October		308			49	194	91	46	1	3	1	44	1	22	759								
	10 Mos.	1	3215	2	1	457	9	1806	2	824	429	5	35	3	1	454	17	192	14	7,288				
New York	October	33	100	1575	74	50	683	68	1144	6	389	398	175	4	58	5	148	167	98	40	5,223			
	10 Mos.	413	685	15634	741	312	5752	252	10552	45	4126	5260	1	1403	100	418	52	1597	1036	1050	283	49,712		
North Carolina	October		1117	4	5	283	3	885	228	195	2	27	1	121	94	61	7	4,298						
	10 Mos.	17	1	1526	20	61	486	15	1322	5	308	229	14	23	5	2	83	10	98	7	1,866			
North Dakota	October		884	1	8	183	1	710	1	153	129	3	2	7	79	40	46	2	2,207					
	10 Mos.	1	8836	14	53	1680		6588	13	1870	1851	40	18	52	885	220	363	13	6,674					
Oregon	October	2	554	13	4	214	1	426	2	205	203	14	23	5	2	83	10	98	7	1,866				
	10 Mos.	18	4183	82	30	1037	7	3139	7	1381	1358	47	129	3	17	6	508	72	628	61	11,273			
Pennsylvania	October	29	82	1700	40	11	731	15	1472	3														

The New **FEDERAL** *Style LINER*

The Most
Outstanding Truck
On Any Job!



Revolutionary design . . . unmatched beauty . . . genuine comfort . . . remarkable performance . . . super-strength . . . full-view vision . . . maximum accessibility . . . these are but a few of the 100 new and improved features that make the new Federal *StyleLINER* today's outstanding truck value. For complete details and delivery consult your nearest Federal truck dealer.

FEDERAL MOTOR TRUCK COMPANY • DETROIT 9, MICHIGAN, U.S.A.

The Federal Franchise May be Available for Your Territory. Details Upon Request.



LEFT. One piece windshield, twin rear windows, full-width door opening add up to driver safety, comfort and convenience. **ABOVE.** One-piece hood opens to reveal easy access to the engine

IHC Cab-Forwards Make Debut

Improved maneuverability and load utilization,
redesigned cabs are featured in new light trucks

INTERNATIONAL Harvester has introduced six new cab-forward models featuring improvements in driver comfort, accessibility and space utilization. This LC series is rated at 14,000, 15,000, 16,000, 17,000, 19,000 and 21,000 lb GVW. New geometric steering provides

easier precision control, a shorter turning radius, and better weight distribution. Steering geometry is coordinated with rear-shackled front springs to increase stability and reduce road shock.

Greater safety, comfort, and convenience are offered in the new all-

steel "Comfo-Vision Cab." The one-piece, curved, rubber-mounted Sweep-sight windshield gives unobstructed front view, while narrow corner posts minimize blind spots. Wide twin rear windows contribute to safer all-round vision. A curved contour instrument panel affords more room, easier reading and reaching of instruments.

A tubular frame seat, specially designed with soft cushion and back, is combined with a more comfortable angle of the steering wheel to give any size driver a more natural position for greater comfort and control. A full-width door opening at floor level provides easy entrance and exit. Engine accessibility is simplified by means of a one-piece, flip-up hood. In addition, easy-to-remove floor boards increases the accessibility of other engine parts.

Internal-expanding, self-centering brakes maintain efficient adjustment. Two-cylinder, full-area forward and reverse lining contact increases lining life and braking efficiency.

The transmission provides a wide range of gear ratios for efficient cab-forward operation. A new four-speed synchro-shift transmission is standard on the LC-160 series. A five-speed constant mesh, with direct or overdrive in fifth, is standard on the LC-180 series.

Power for the new line is supplied by two new International six-cylinder, valve-in-head engines. The Silver Diamond 240 engine is standard on the LC-160 series. The Super Blue Diamond 269 engine is standard on the LC-180 series.

FOR THE SAME REASONS

you insist on
smart-looking
company vehicles...



insist on uniforms of

REEVES QUALITY FABRICS

SMART-LOOKING EMPLOYEES mean greater public acceptance. That's why leading companies specify uniforms of Reeves Army Twill, Parade Twill and Reeves Glengarrie Poplin. For these fine fabrics wear longer and keep their crisp, good looks even after repeated washings. They're made of fine combed cotton yarn—two-ply for extra strength... Sanforized* and vat-dyed in colors that are fast to sun, water and perspiration.

Make sure your employees make a good, clean-cut impression on the public. Specify Reeves Fabrics in your uniforms. Write for full information.

*Residual shrinkage less than 1%

Reeves also makes BYRD CLOTH, REEVECORD, REEVROY CORDUROY, PLAID DENIM and other nationally known quality cotton fabrics.



REEVES BROTHERS, Inc., 54 Worth Street, New York 13, N. Y.

Representatives in: Atlanta • Boston • Chicago • Cleveland • Dallas • Los Angeles • Philadelphia • Portland, Oregon • St. Louis • Montreal • Toronto

Truck Specifications

Showing New Models and Revisions Since Last Issue

The specifications of new truck models and revisions in current models noted below have been received from truck manufacturers since publication of the Commercial Car Journal Truck Specifications Table in the December, 1950, issue. Readers are requested to make note of these changes. The complete Table will be included in the February, 1951, issue.

**DATA SUPPLIED BY MANUFACTURERS AND TABULATED BY
COMMERCIAL CAR JOURNAL**

Oshkosh

Model W-700 has been changed to **Model WA-700**, and **Model W-703** has been changed to **WA-703**. The **W 703D**, the **W-705** and the **W 906** have been dropped, according to Oshkosh. In addition, the **W906R** has been changed to the **WA-906R**, and the **WA** designation has been added to the **W1600BG** and the **W1600CD**. Models **W1600BD** and **W1600DH** have been dropped.

Truckstell

Changes in service brake lining and drum area characterize some of the Truckstell models. On Models C2X28, 2F; C2X29-OC)E, 2F; C4X28, 4R; C4X29 COE 4R; C4X29; and C4X30 service brake drum area is 797 sq. in. and drum area is 930 sq. in. A transmission hand brake which contacts both inside and the outside of the drum is used on these models.

**See December issue, Page 81
for specifications of other models.**

Diesel engine obtainable
Double gear ratio

• Auxiliary transmission Spicer 6231B
• For shorter wheelbases 10x3 ~~10x4~~

-Auxiliary transm ward speeds

Auxiliary transmission Spicer 6231B, three forward speeds



"MACK DIESELS cut our mile-per-gallon cost over 53%"

—Stanley L. Wasie, Pres.,
Merchants Motor Freight, Inc.

"Our 50 Mack diesels are one gilt-edged investment that pays big dividends," says Stanley L. Wasie, President of Merchants Motor Freight, Inc., of St. Paul, Minnesota.

"Before we took on Mack diesels we were averaging 4.5 miles per gallon from comparable gasoline-powered units. Mack diesels stepped that figure up to 6.9" — a saving of 53.33%!

Other Mack diesel operators are getting the same brand of economy. Mack diesel-powered trucks and tractors not only give you the double saving of more miles per gallon at less cost per gallon, but also the savings that "Built like a Mack" brings to every Mack owner.

And they are: more time on the job, less absenteeism, longer life — savings that put thousands of extra dollars into the pockets of Mack owners. There's a complete Mack line to meet every operator's requirements — and your Mack branch or distributor can tell you a dollar-saving story that's worth hearing.



...outlast them all!

Mack Trucks, Inc., Empire State Building, New York, N.Y.
Factories at Allentown, Pa.; Plainfield, N.J.; Long Island City, N.Y. Factory branches and distributors in all principal cities for service and parts. In Canada: Mack Trucks, Ltd.





Half-and-half mix of paraffine and diesel oils is sprayed on each truck daily by its driver, preventing adhesion of concrete and saving finish

Paraffine Spray Cuts Maintenance Costs

Daily routine also gives spotless appearance
to ready-mixed concrete delivery truck fleet

By L. H. Houck

V. H. FLANNERY of E. St. Louis, Ill., producer of ready-mixed concrete and the owner of a fleet of tandem drive mixer trucks, was sitting at his desk one day in 1946 when the phone rang. It was the shop superintendent of a factory branch maintenance garage where he had his trucks serviced prior to establishment of his own maintenance garage.

"You'll notice an extra charge of two hours time on the brake job on one of your trucks," the superintendent told Mr. Flannery, "and we thought you ought to know why and possibly you could find a remedy."

"What caused the extra time?"

asked Flannery. "We ordered a simple brake adjustment and check-up."

"It took us two hours to get the dried concrete off so we could start on the brake job," the superintendent replied. "Now, if you could find some way to keep that concrete washed off you'd save a lot of money in maintenance cost."

"Thank you," Mr. Flannery said. "I can assure you that we'll keep it off in the future."

That was the beginning of a system that cut costs at once, and saved more money as it was improved.

Today Flannery's big mixer trucks,

handling heavy loads and specializing in quick and timed delivery to construction job sites, are cleaner inside and out than the average privately-owned automobile.

"After I found out what it was costing me to leave these trucks dirty, I started on a routine washing program," Mr. Flannery said, "and while that was much better, it wasn't the answer. Then we became more public relations conscious and more aware of the possibility of reaping an additional dividend in goodwill by having the best looking, cleanest, and most freshly painted concrete mixer trucks in the construction industry. This meant, too, that our signs on each side, could be read easily at all times instead of being almost blotted out by ugly splotches of cement."

Drivers Wash Own Trucks Daily

FLANNERY had each driver wash

his trucks once each week. Then he increased it to twice a week. Then he increased it to once each day. During this time, some of the drivers objected to washing the trucks, although they were paid to do it on their own time. This led to a conference with the business agent of the union and a decision by union officials that the drivers were required to obey Mr. Flannery's orders in regard to washing, since he paid them for the job. Pleasant relations in this regard have been had since, and drivers enjoy driving the best looking concrete trucks in town.

Cement sticks to painted surfaces. It is almost impossible to drive these trucks into loading position, load and then unload at the building site, without getting a generous splattering of concrete on the truck. When this is washed off, being highly abrasive, much of the paint comes off with it.

While the trucks were being kept clean, and maintenance costs mechanically were going down, the painting cost was going up, Mr. Flannery said.

Spray Trucks with Paraffine

THEN it was decided to spray the trucks with paraffine oil once daily. This keeps the concrete from sticking tightly and trucks can be washed off with a hose.

The present system, which is highly satisfactory, consists of spraying all

(TURN TO PAGE 90, PLEASE)

**These men know what it takes to operate their fleets economically...
that's why they're sold on**

Wagner Air Brakes



F. L. HUNTER
Plant Superintendent
MISSOURI PETROLEUM PRODUCTS CO.

"We have used Wagner Air Brakes for more than seven years without a major failure, and we believe that this record is due in part to the Rotary Air Compressor used in all Wagner Air Brake Systems."



ADAM EBINGER *
General Mgr. of Automotive Equipment
ST. LOUIS PUBLIC SERVICE CO.

"Wagner Equipment had to be good to justify the fact that over 85% of our fleet of more than 1200 buses is equipped with Wagner Air Brakes. Their reliability and dependability have contributed considerably in helping us save many maintenance dollars."



F. HARRISON
Garage Foreman
NIGHTHAWK FREIGHT SERVICE, INC.

"One of the features that sold us on Wagner Air Brakes is the Rotary Air Compressor. After years of operation we have not had a single compressor failure—they've got to be good to stand up like this on many of our hauls where brake applications are frequent."



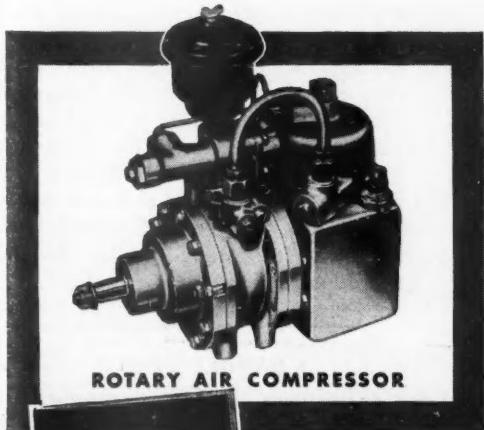
EMIL H. BANGERT
Vice-Pres.—Operating Mgr.
ST. LOUIS COUNTY TRANSIT CO.

"The remarkable performance of a test Wagner Rotary Compressor installed on one of our Ford transit buses has helped prove to us the efficiency of your machine. This compressor operated 50,000 miles without requiring maintenance of any type and we have decided to install Wagner Air Equipment on the balance of our 86 buses."



B. E. GARNER
Maintenance Superintendent
WESTERN TRUCKING CO.

"As far as we at Western are concerned—for the job they have to do—for freedom of maintenance—for all around dependability Wagner Air Brakes are our best buy for our operation in this trading area."



ROTARY AIR COMPRESSOR



Here are only a few of the enthusiastic expressions made by hundreds of large fleet operators. You, too, can cut your brake maintenance costs. Profit by the economical operation of Wagner Air Brakes. Install them on your present vehicles and specify them when ordering new equipment. Remember, Wagner is the only air brake system with the Rotary Air Compressor—the compressor that assures an abundance of air at all times. New Bulletin KU-201 tells the full story.

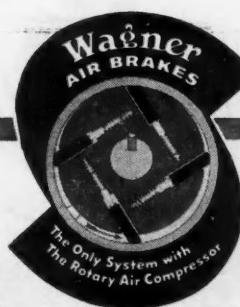
Wagner Air Brake Users are our Biggest Boosters.

Wagner Electric Corporation

6470 PLYMOUTH AVE., ST. LOUIS 14, MO., U.S.A.

(Branches in Principal Cities and in Canada)

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID...NoRoL...CoMaX BRAKE LINING...AIR BRAKES...TACHOGRAPHS...ELECTRIC MOTORS...TRANSFORMERS...INDUSTRIAL BRAKES



Paraffin Spray Cuts Costs

Continued from Page 88

trucks once daily with a mixture of paraffine oil and diesel oil; about half and half. Each driver sprays his truck and his engine each day, and washes it off with a water hose. Concrete that splatters on the truck washes off easily without marring the paint. Paint jobs last as long, if not longer, than paint jobs in any other industry.

The oil spray is applied with a simplified paint sprayer, using a single nozzle and air pressure at line pressure; which makes a reducer valve unnecessary. It is applied to all parts of the body and chassis, and to the engine and interior of the engine compartment.

After being thoroughly sprayed, the truck is washed down with water at

**Don't pour
your profits
down the drain,
cleaning by hand**

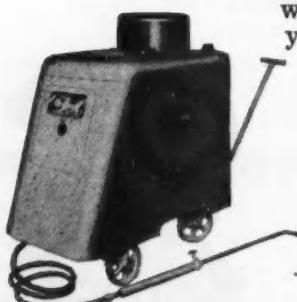


Check your next repair job and you'll find that 25% to 40% of your mechanics' time is lost wiping dirt and grease from tools and equipment. Apply their hourly rates to that time and you'll see just how much of your profits are wasted by outmoded hand-cleaning.

are wasted by back破手 hand-cleaning.

By steam cleaning with Hyppressure Jenny before repairs, you'll save that lost repair time and get your equipment back on the road, and earning, in practically half the time. On general maintenance cleaning of vehicles, shop equipment, pits, lifts, floors, driveways, walls, windows, etc., Hyppressure Jenny will save you 90% in man hours and money by cleaning *10 times faster, and better, than hand methods.*

Stop pouring profits down the drain! It costs you nothing to get the new 20 page booklet, "1001 Ways to Extra Profits with Hyppressure Jenny." Write for your copy today. No obligation.



Model JO Hypersure Jenny

There is a Hyppressure Jenny for Every Mill, Mine, Factory, Farm and Automotive Need.

**HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING CO.**
"Serving Since 1892"
P. O. Box 90 Ceraopolis, Pa.

regular line pressure, using a garden hose nozzle. Rubbing is usually unnecessary. The whole operation consumes between a half and three-quarters of an hour, and takes place each day. The driver usually sprays and washes his truck when he has a waiting time between delivery orders. Inside of cabs are kept spotless at the same time, and each driver takes pride in the appearance of his truck.



In addition to spraying the body, engines and engine compartments are given the same treatment daily. This keeps abrasives, originating from concrete mixtures, from damaging engine parts.

"Maintenance costs, compared with the period when trucks were washed only occasionally, are lower now by at least 25 per cent," Mr. Flannery said. "And we have received much advertising and publicity from the fact that our trucks are kept immaculate despite the type of loads they haul. In labor costs, in maintaining our trucks, we are certain we have reduced this 50 per cent."

Flannery maintains his own maintenance garage now. Drivers often call mechanics to examine their trucks while they are spraying and washing, since this close examination to get the rig clean, often discloses the need for mechanical attention. Mechanics find parts easy to remove and install under this system, which results in a further saving of labor time over a standard operation.

A BARREL OF FUN

O'Hoolihan, the garage operator, was a very sick man. When the doctor made his daily visit he was met at the door by Mrs. O'Hoolihan. "Did you take your husband's temperature as I told you? And how is he?"

"I did that, of course, Doctor. I borrowed a barometer and placed it on his chest. It read 'Very Dry' so I rushed out and bought him a barrel of beer. He's gone back to work today."

HENDRICKSON

USES

SHULER AXLES



THERE ARE NO BETTER AXLES, AT ANY PRICE!

SHULER AXLE COMPANY, Inc.

Louisville, Kentucky

Since 1915, Manufacturers of: One-Piece Tubular and Square Trailer Axles, Front Axles, Machinery Trailer Axles, Machinery Front Axles, Front-Steer Trailing Axles, Heavy-Duty Brakes (Mechanical, Vacuum and Air), House Trailer Axles, Miscellaneous forgings for Heavy-Duty Trucks and Trailers.

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EXPORT DIVISION
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1280 Forty-Fifth St., Oakland

SOUTHWEST WAREHOUSE
301 N.W. 28th St., Fort Worth

NORTHWEST WAREHOUSE
1238 N.W. Glison St., Portland

Fleetman's Library

COIL SPRINGS, a new catalog contains a complete vehicle and numerical listings and a chart of heavy-duty substitutions that permits a repairman to select heavy-duty coil-spring sets at a glance. Catalogs may be obtained from Maremont coil spring wholesalers or by writing directly to Maremont Automotive Products, Inc., Chicago, Ill.

"T" SERIES AIR COMPRESSORS, a bulletin, describes stationary air compressors consisting of two lines, one designed for normal industrial pressures of 100-125 lb., the other rated at 200-250 lb. Various sizes and models with cross-sectional views, engineering data, sizes and dimensions are included. Write Ingersoll-Rand, New York, N. Y.

A booklet describing the new Dual fuel (natural gas and diesel) engine in detail is available upon request to the Detroit Diesel Engine Division, 13400 West Outer Drive, Detroit 28, Mich.

An 8-page information bulletin which also serves as a counter catalog insert has been issued by Aircraft-Marine Products, Inc., covering its new line of low cost automotive terminals and tools. Copies are available on request to Aircraft-Marine Products, Inc., Maintenance and Repair Division, 1523 N. 4th Street, Harrisburg, Pa.

"The Case For The Trucking Industry," a 160-page booklet contains all of the testimony submitted by representatives of the American Trucking Association, Inc., before a Senate subcommittee investigating transportation during June and July, 1950. Copies will be supplied at a price of 75 cents per copy in quantities of ten or more, and at one dollar per copy in smaller quantities.

CRACK REPAIR MANUAL, covers techniques for repairing all classes of cylinder block and head cracks and breaks. A detailed step-by-step procedure is outlined for each type of repair accompanied by diagrams and illustrations. Write to Tincher Products Co., Sycamore, Ill.

The new powered hand trucks recently announced by the Clark Equipment Co. are described in detail in a 12-page, two-color booklet just off the press. A copy is available upon request to the Clark Equipment Co., Industrial Truck Division, Battle Creek, Mich.

A new twenty-page, fully illustrated catalog on Whiting's light crane and monorail system that is especially designed for low-cost handling of loads from 250 to 20,000 lbs. Whiting Corporation, Harvey, Ill.

A 36-page catalog on hand torches for gas welding and cutting contains detailed information on Airco's complete line of welding and cutting torches, outfits, tips, and accessories. Air Reduction, 60 East 42nd Street, New York 17, N. Y.

A 28-page catalog on American Bosch electric windshield wipers available to dealers, fleet superintendents and maintenance foremen, and may be secured from American Bosch Corp., Springfield, Mass.

A general brochure on Permalite Lightweight Aggregates, 8 pages two colors, 8½ x 11, is now available from Great Lakes Carbon Corp., Building Products Division, 18 East 48th Street, New York 17, N. Y.

Reliance pre-lubricated bearing design, which provides more hours of motoring operating life without relubrication than any other pre-lubricated bearing, is the subject of Bulletin B-2201 recently published by Reliance Electric and Engineering Co. of 1088 Ivanhoe Road, Cleveland, Ohio.

A 6-page, catalog size, 2-color bulletin prepared by Mobilift Corp., 835 S. E. Main St., Portland 14, Oregon, illustrates Mobilift's two new 2000 lb. capacity Lev-R-Matic Drive Fork Lift Trucks, gives specifications and many features of both models.



SIMPLE design—easy application—strong, durable construction—give Hansen Hardware its ability to stand up under severe service conditions.

Hansen products illustrated include:

No. 10 Continuous Hinge. Made in standard 12-inch lengths. One length provides hinges of all lengths. Made of .078 gauge steel. 1/4" hinge pin. Wt. 1 1/4 lbs. ea. 12" unit. 12 units per box.

No. 60 Extension Lock. Made in one piece. No loose parts. 1 1/4" hardened striker bolt. Matched rosettes. Strong. Neat. Attractive. Size, 5" x 10". 5" handle. Wt. 2 5/8 lbs.

No. 85 Window Regulator. Straight-up lift. No sticking or jamming. Easy, fast operation. Endless chain. Right- or left-hand application. Crank or wing types. Five lengths, 22"-30".

No. 125 Slam-and-Take-up Lock. For side or rear double doors. Left-hand side includes bolt with hook. Right-hand side of lock includes striker bolts, center mechanism and 26" rods. Flush or offset bolts, as specified.

Lower upkeep invariably comes from using Hansen Hardware—often lasting longer than the body on which installed.

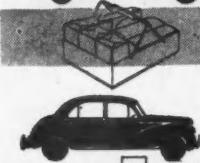
REQUEST CATALOG GIVING
COMPLETE INFORMATION

A. L. HANSEN MFG. CO.
5047 RAVENSWOOD AVE., CHICAGO 40, ILL.





More evidence of maintenance savings



in STOP and GO service



with GULFLUBE MOTOR OIL X.H.D.

LOW TEMPERATURE OPERATING CONDITIONS

Wear

Avg. top ring weight loss, grams
Avg. Comp. ring weight loss, grams

	<u>Ordinary Oil</u>	<u>GULFLUBE MOTOR OIL</u> <u>X.H.D.</u>
Avg. top ring weight loss, grams	0.26	0.06
Avg. Comp. ring weight loss, grams	0.22	0.05

Rusting

Oil Screen Housing
Cylinder Walls
Rocker Arm Cover
Timing Case
Side Cover Plate

light	nil
medium	trace
heavy	nil
heavy	trace
heavy	nil

Performance of Gulflube Motor Oil X.H.D. as compared to ordinary oil in an engine corrosion test under low temperature operating conditions.

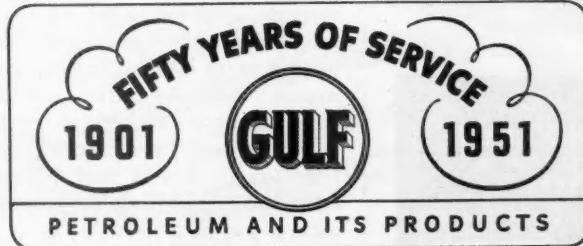
ORIGINALLY developed for extremely heavy duty operating conditions, Gulflube Motor Oil X.H.D. has proved to be just as effective in stop-and-go light duty service.

Low temperature sludge has been a serious problem for years to operators of fleets in this type of service, such as taxicab, dairy, and bakery fleets. Just as troublesome, though not so easily recognized, is corrosive wear.

Gulflube Motor Oil X.H.D. greatly reduces the accumulation of objectional sludge, prevents rust formation, and also prolongs

engine life by minimizing cylinder and ring wear.

The above table shows how Gulflube Motor Oil X.H.D. reduces corrosive wear under low-temperature operating conditions —more evidence of maintenance savings in stop-and-go service with this outstanding new oil. Send the coupon below for a pamphlet which gives additional information. Gulf Refining Company • Gulf Oil Corporation, Gulf Building, Pittsburgh, Pa.



Gulf Oil Corporation
Gulf Refining Company
Room 3SZ, Gulf Building, Pittsburgh, Pa.
Gentlemen:

Please send me, without obligation, a copy of the pamphlet "Gulflube Motor Oil X.H.D."

Name.....

Company.....

Title.....

Address.....

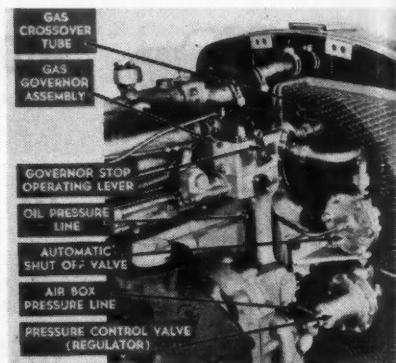
CCJ

GM Convertible Engine Burns Gas or Diesel Fuel

THE Detroit Diesel Engine Division of General Motors has announced a new option on Series 71 Diesel engines which enables them to burn natural gas in accordance with true diesel high-compression principles. This option is available both on new engines leaving the factory and engines already in use.

For the latter a factory-engineered kit is available for the changeover.

The changeover permits the engines to burn either natural gas with a pilot charge of diesel fuel or diesel fuel alone. There is no interference with the operation of the unit as a straight diesel fuel engine when required.



Lever on gas governor permits instant changeover from dual fuel to diesel

The NEW */BUFFALO* better-built VL FIRE EXTINGUISHERS

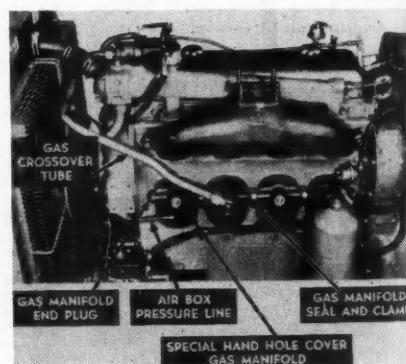
with-
DRYEX
THE AMAZING
NEW DRYING
AGENT!

Every motor vehicle, every garage, repair shop and spray booth needs the protection of the Buffalo *better-built* VL Fire Extinguisher, now more dependable than ever. Each VL Extinguisher now contains DRYEX, the exclusive new drying agent that removes all traces of moisture, prevents corrosion and rust, insures continuous accuracy of performance and adds many years to the dependable life of the extinguisher.

Write us for full information on **DRYEX** and name of your nearest Buffalo distributor.

BUFFALO FIRE APPLIANCE
CORPORATION
DAYTON, OHIO

Established 1895

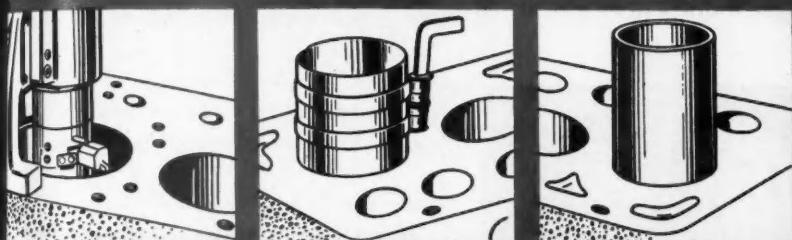


Left side of engine shows changes required to convert to natural gas

The dual-fuel unit has no electrical ignition system. Natural gas is delivered to the cylinder and fired by a small charge of diesel fuel at the top of the compression stroke. The engine instantly adjusts itself between the use of natural gas (with a pilot charge of diesel fuel) and straight diesel fuel in case the gas pressure falls off partially or completely. An automatic shut-off valve activated by the rise and fall of engine oil pressure cuts off the flow of gas when the engine is not in use.

According to Detroit Diesel, the advantages of the dual-fuel engine as developed in the field are added fuel economy in areas of abundant natural gas; instant changeover from dual-fuel to straight diesel operations; quick response to load (a characteristic of the GM 2-cycle diesel) and lowered upper keep due to non-sludging properties of natural gas as a fuel.

No. 1 Ring or All Replacement Jobs



Re-bore Re-ring Re-sleeve



The Hastings Steel-Vent Piston Ring is engineered for replacement service—and for all replacement service. It's the right ring for every re-bore, re-ring and re-sleeve job.

And it's chrome-faced for heavy-duty service. It gives three to four times the life you'd expect—under tough, abrasive conditions. It gives greater resistance to wear, to scuffing, to acids under all conditions.

Automotive repairmen and fleet maintenance men say it saves money on every installation. It will pay you to install the Hastings Chrome Set in every heavy-duty job.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN

HASTINGS LTD., TORONTO



HASTINGS

STEEL-VENT PISTON RINGS

CHROME-FACED for heavy-duty service

GMC's Simplified Model Designation

Continued from Page 74

ing lighter weight aluminum pistons; and use of a deep wall, 3/32-in. wide top ring, replacing the present standard 1/8-in. ring.

On the 248 engine only, exhaust valves now are equipped with Eaton Free-Valves, providing rotation so essential to increased valve life. This engine also is fitted with a 1 3/8-in.

carburetor for improved throttling and better fuel economy.

Brake Improvements

ON MODEL 100-22, service brakes have been changed to the new Duo-Servo type and front brakes have been widened by 1/4 in. This increase in width was to provide life



THE RUGGED, SIMPLIFIED 100% mechanical **DUBE HOIST**

- amazingly simple in operation
- needs no special tools for servicing
- cuts maintenance costs and saves you money

The DUBE Mechanical Hoist operates through a conventional power take-off to a speed reducer and Cone worm and gear set. Cam and roller principle combined with lifting arms generates ample power to dump biggest load. Designed for light, medium and heavy-duty dump trucks up to a gross vehicle weight of 28,000 pounds.

Distributors—A few desirable territories still available. Write or wire today.

DETROIT MECHANICAL HOIST CORP.

3502-12 WEST FORT STREET, DETROIT 16, MICHIGAN

- ★ NO HYDRAULIC FLUID to congeal in winter or thin out under summer heat.
- ★ 70° BELOW TO 120° ABOVE —operates at top efficiency in any weather under all working conditions.
- ★ 55° TO 60° DUMPING ANGLE —self-locking in any dumping angle at the control of the driver.
- ★ SAFE—NO SLIPPING Always maintains constant dumping angle with foolproof mechanical power.
- ★ 600:1 GEAR REDUCTION for greatest economy. Positive Power-Down as well as Power-Up.

SEND FOR FREE FOLDER

Please send me without charge or obligation a copy of your new illustrated folder.

NAME _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____

CC1

equal to the new rear brakes.

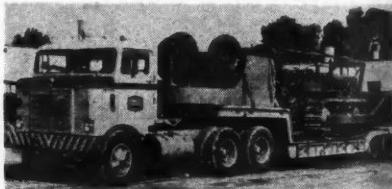
On models 280-22, 300-24, S300-24, 350-24 and F350-24, the front brake cylinders have been enlarged from 1 1/4 to 1 3/8-in. diameter. The hand brake has been removed from rear wheel brakes and replaced by a separate hand brake installed on the rear of the transmission. This is of the dual-shoe type in which shoes engage the inside and outside of the transmission brake drum. The single pair of brake shoes leave a very large exposed drum area which aids in cooling.

Rear brake drums are changed from centrifuse to heavy section cast iron for greater heat dissipation.

A new 4500-lb. front axle now is standard on models 280-22 and 300-24, 1 1/2-ton trucks, replacing the 3500-lb. capacity axle used on 1950 models.

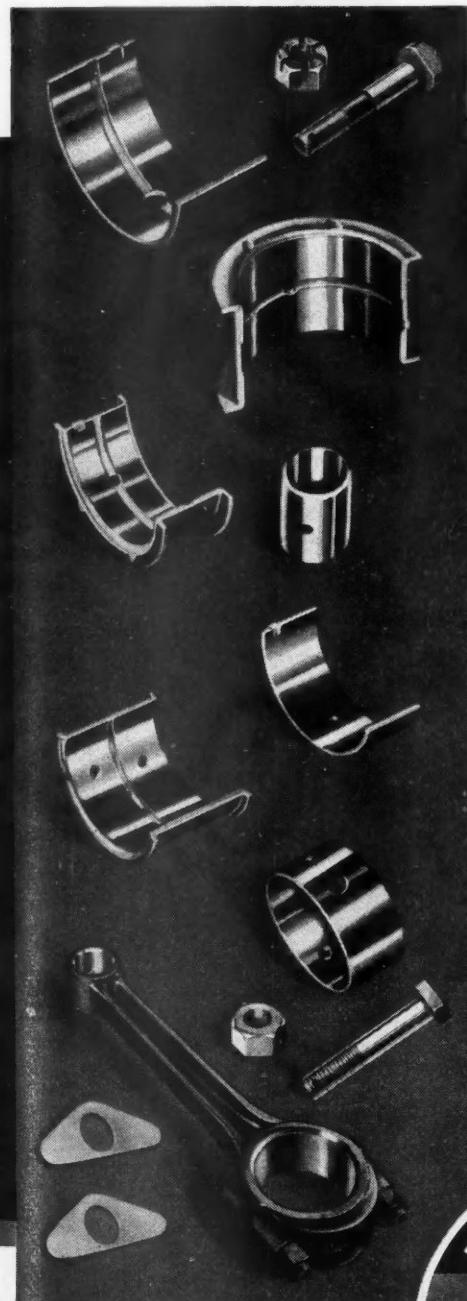
On models 280-22, 300-24, S300-24, 350-24 and F350-24, rear-axle shaft flanges have splined teeth cut in their circumference and engage matching teeth broached into wheel hubs. The opening of the hub is covered with a steel cover and gasket, making it an oil-tight closure. Rear axle rating has been increased from 10,500 lb. to 11,000 lb. on models 280-22, 300-24 and S300-24; and on the 350-24 and F350-24 from 12,500 lb. to 13,000 lb.

Short But Stout



Effective use of the cab-over-engine truck design in the construction field is being made these days by S. J. Groves and Sons Co. of Minneapolis, who are now using a specially designed Kenworth cab-over-engine truck to transport vital equipment needed in a hurry on different projects which extend from the East Coast down into the coal fields of Pennsylvania and up into the iron range territory in northern Minnesota. As the Kenworth unit is 45 ft in overall length it is legal in all states in which it operates, and therefore able to deliver equipment without delay. The Kenworth Model 523 is a 200 hp., vehicle, equipped with a 10-speed transmission and the SD-3010 Timken axle. It is also equipped with a two-way telephone radio by which the driver can be located during his trips for changed or additional instructions.

for all of your
engine bearing needs . . .



the red-and-black Federal-Mogul package is your guide to quality!

For top-notch engine bearing jobs, ask for the
red-and-black Federal-Mogul package of quality!

From the complete Federal-Mogul line of more than
7,000 available items, you get complete engine
bearing service. Precision insert bearings — main,
connecting rod or cam . . . reconditioned connecting
rods . . . rebabbitted rods . . . or the bolts
and nuts, shims and bushings for servicing the rods..

Ask your Federal-Mogul jobber!



FEDERAL-MOGUL SERVICE
(Division of Federal-Mogul Corporation)
DETROIT 13, MICHIGAN

INTRODUCING . . .

... HARRY J. WASHINGTON, as regional manager of the Chicago region for the Dodge Division, Chrysler Corp.

... FRANK FRITZ, named assistant to sales manager, Howard K. Lang, of Toledo Steel Products Co., Toledo, Ohio.

THE BIEDELMAN TRUCK



**An All-Star Truck
Constructed of All-Star Units
Doing an All-Star Job Since 1920**

DEALERS: Compare the Biederman National Standard Model with any truck on the market and you will agree that it is an All-Star team in itself.

Only the most sturdily constructed units of America's leading manufacturers are built into it.

Biederman Trucks win by performance. Inquiries regarding dealership solicited.

WRITE, WIRE or PHONE

**BIEDERMAN MOTORS CORPORATION
CINCINNATI 14, OHIO**

... New members of the sales staff of the Prest-O-Lite Battery Co.: GILBERT K. HEWITT has replaced F. G. HIPP as district representative for Prest-O-Lite in the Indianapolis area. C. W. AUSTIN will be representative in the Cincinnati area. PAUL H. DUPUY will handle the New Orleans area. ROBERT C. MITCHELL has been assigned to the New York metropolitan area.



... KENT FULLERTON, elected president of The Electric Heat Control Co., Kalamazoo, Mich.

... ROBERT M. PARKINSON, appointed district manager of the Rocky Mountain Sales Territory of Walker Mfg. Co. of Wisconsin.

... R. L. ALLEN, appointed director of the service engineering department of Toledo Steel Products Co. He succeeds FRANK FRITZ, now assistant to the sales manager.



... WILLIAM W. LOWE, who has joined Raybestos Division of Raybestos-Manhattan, Inc., as a fleet service engineer.



... WILLIAM S. WOOLSEY, as assistant director of truck sales, the Dodge Div., Chrysler Corp.

... W. C. NEWBERG, named a vice president and director of the Dodge Division, Chrysler Corp.



... S. E. BIGGS, left, Cincinnati, and JAMES A. BARDLEY, right, of Berkeley, Cal., have been elected vice presidents of The Trailmobile Co.

... MILTON G. PECK, appointed sales manager for the recently introduced line of Clark powered hand trucks of the Clark Equipment Co., Battle Creek, Mich.

... LEONARD L. ROBB has been appointed assistant to the president and board chairman of Stewart Warner Corp.

... JOHN J. WALBECK as the new assistant advertising and merchandising manager for Seiberling Rubber Co.

... LOUIS C. GOAD, executive vice-president in charge of car and truck group for General Motors.

... R. E. ESCH as general sales manager of Vickers Inc. division of Sperry Corp., Detroit, Mich.

... L. D. REHILLY recently elected president of Interstate Motor Freight System of New York.

... EDWARD P. LETSCHER, named regional manager of the new sales area in Cleveland Ohio of Dodge Division, Chrysler Corp.



... GEORGE A. ORPHAL, named western sales director for Dodge Div. of Chrysler Corp.

... FRED L. COGSWELL has been appointed sales manager of the Kellogg Division of American Brake Shoe Co.

... EMIL F. FREY, becomes director of sales promotion and advertising for the DeVilbiss Co. of Toledo.



... W. JAY REED, manager of the Maryland district for The Autocar Company, Ardmore, Pa.



... L. C. ALLMAN, left, executive vice-president of the Fruehauf Trailer Co. and C. L. Schneider, right, vice president in charge of sales.

... GUY DEVANY, Yankton, as executive secretary of the Associated Motor Carriers, Inc., of South Dakota.

... H. G. ENGEL, as office sales manager and V. M. ANDERSON, as district sales supervisor in northern Illinois, for The Four Wheel Drive Auto Co., Clintonville, Wis.

... GEORGE G. HARMON, as regional manager of the St. Louis region for the Dodge Division, Chrysler Corp.

... CHARLES J. WILHITE has been promoted to acting northwest regional manager of Cummins Engine Co. of Columbus, Ind.

... ROBERT P. EVERETT, as World Bestos district manager of the Ohio, Indiana and Western Pennsylvania district.

... R. W. JACOBSON, named manager of the Syracuse Branch of Brown Equipment and Mfg. Co.

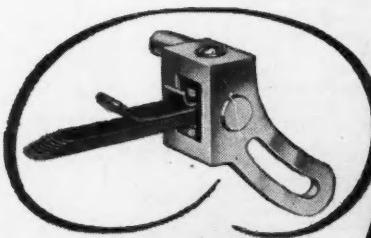
... LAWRENCE M. RICH, appointed vice president and general sales manager of the Plomb Tool Co., Los Angeles, Cal.

... AL H. FRIEDMAN, named to the position of assistant sales manager, The Guaranteed Parts Co., Inc., Seneca Falls, N. Y.

**OUT OF SIGHT...
but definitely
under your
control!**

When your vehicles are Hoof equipped, you KNOW how fast they're travelling—just as surely as if your foot rested on each accelerator!

By positively controlling high-gear speed as well as preventing excessive engine racing in low gears, Hoof Governors drastically reduce fleet operating costs, reduce insurance premiums, reduce accident hazards. Write us for complete information.



A Patented, exclusive Hoof feature, this Cantilever Spring means more accurate speed control, simplified construction and longer life!

HOOF key and seal type
GOVERNORS

HOOF PRODUCTS CO.
6543 S. Laramie Ave., Chicago 38, Ill.

Dr. Pepper's Driver Pep Talk

Continued from Page 59

"The sterling qualities of inner character seldom shine forth from a sloppy outward appearance. People just don't look deeper than the surface especially at a first meeting."

4. He listens to the buyer's side of a story without interruption.

"The dealer does not want to hear about your troubles or listen to your stories. He wants to air his own," McKelvey reminds drivers.

5. Passes along constructive sales and advertising ideas to dealers.

"The key to this is the fact that the dealer is not interested in the pretty new sign we have devised," says McKelvey, "but he does perk up, listen, act, and appreciate the routeman's help when a Dr. Pepper driver tells about ideas to help him make more money. Not just, 'here's a new display, Joe,' but rather, 'here is some advertising mate-

rial that will sell more bottles of Dr. Pepper out of your cooler.' Or, 'here is a way to pull more people into your store.'"

6. Knows his products, their uses, and how they may be sold.

7. Never knocks competitor nor carries tales about other dealers.

"The man who carries tales about other dealers may be interesting—for a short time—but there is always the question in the buyer's mind: 'What is he telling my competitors about me?'" McKelvey points out to his Dr. Pepper routemen. "Don't tale-carry, and don't knock competing soft drinks. They are good, sound products too."

8. Shows a personal interest in the dealers' problems and successes.

9. Does not make exaggerated promises: Remembers to keep the promises he does make.

10. Is careful not to take advantage of the dealer's friendship.

11. Is quick and concise in outlining special plans.

12. Shows unusual courtesy to the dealer, his clerks, and his employees.

Courtesy is the lubricating oil which makes the wheels of good will go around. "It can't be spread only around the dealer," warns George McKelvey. "His employees may one day be managers or owners of their own outlets. And even if they are not, their ill will can be a great hindrance, their good will a tremendous help. Our men go out of their way to treat everybody with unusual courtesy."

13. Avoids the use of distasteful language and refrains from story telling.

14. "Sympathizes" with others' problems—but never discusses his own.

15. Shows "by every word and action" that he is proud of his company and his products.

16. Does not complain if he must look around to find his empties.

17. Keeps his stocks clean. Wipes bottles free from dust before putting them into the dealer's cooler.

18. Dusts carton displays every trip, and replaces Dr. Pepper advertising material before it gets out of date.

19. Never molests competitors' displays or advertising material.

20. Trucks never block the dealers' driveways or parking lots.

21. Dr. Pepper routemen handle bottles and cases "with minimum of noise."

22. The salesmen always express appreciation for the business received from the dealer.

To make sure that Dr. Pepper drivers "live by these 22 reasons why the customer likes to buy from a salesman," McKelvey goes out on the trucks regularly.

END

Please Resume Reading on P. 60

How To "Keep An Eye" On Your Truck

Even When It's Out of Your Sight!



Ask the modern efficient truck manager and he will reply right away: "Sure—the answer to that is easy. First thing every morning we put a blank chart in the little Servis Recorder up in the cab of the truck. The next morning when that chart is laid on my desk, I can see right away everything the truck did the day before—busy time, idle time, overtime, everything. The truck wrote its own record."

That's the answer that well over a hundred thousand satisfied truck operators now give, as they look over the previous day's performance shown on their Servis Recorder charts.

And it is the answer that will so thoroughly satisfy YOU if you too will equip your trucks with SERVIS RECORDERS—and thereby get better truck performance. Chances are you'll also add—"Don't see how we ever got along without 'em!"

THE SERVICE RECORDER COMPANY
1375 Euclid Avenue • Cleveland 15, Ohio

The Servis Recorder
Tells Every Move Your Truck Makes

Attitude . . . Key To Accidents

Continued from Page 51

formance by such attitude factors as indifference, carelessness, impatience, worry, dissatisfaction, etc.

These various intangibles of behavior attitude emphasize the problem of developing a method for determining not how well one CAN drive but how well one WILL drive.

Deficiencies in psycho-physical abilities or training are more readily diagnosed. The cures are usually simple and effective. Spectacles may correct deficiencies. A hearing aid may offset deafness. Specific training and practice may correct improper driving procedures.

Driver Attitudes Are Complex

DRIVER attitudes, however, are far more complex. Too often the germs of faulty attitude seem to lie dormant and undetected for a while, then pop up to plague the fleet with an epidemic of violations and accidents.

Unfortunately, attitude still is among the least understood subjects in the field of safety promotion. Many men refer to it in the same manner as psychology used to be referred to years ago. It is vaguely associated with human behavior.

There is much that can be said in the way of defining attitude. It covers a realm of human interest—social, economic, industrial, moral, vocational and so on. Even from the standpoint of safety, it runs the gamut of personal problems—such as unhappy marriage, illness, gambling, drinking and so on. However, attitudes resulting from such personal problems usually can be quickly spotted. A heart-to-heart or "dutch uncle" talk is a common effective method employed to correct or improve these problems.

More insidious, however, are the problems resulting from incorrect attitudes in persons not suffering from noticeable afflictions, habits or personal problems. This is a fellow who looks and acts perfectly normal in all respects until he steps into a cab and seats himself behind a steering wheel. This fellow may be able to drive skillfully, be sound in body and mind (as far as is apparent), possessed of "savvy" and experience, and even have a very pleasant disposition and personality.

Once the vehicle starts moving, subconscious attitudes seem to distort this personality. Then things begin to happen. They are chronicled in the accident reports and police blotters.

tified as to why this man should be an accident repeater.

Attitudes Are Made

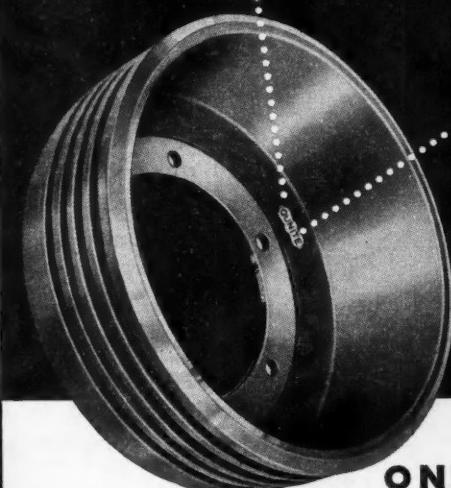
GENERALLY speaking, driver attitudes may be defined as the state of mental or emotional regard for the activity of driving. Contrary to widespread belief, faulty driver attitudes are not inborn, they are made! And a fleet supervisor beset with the problem of faulty attitude among his driver personnel should take heart, since changed and improved attitudes are easily with-

(TURN TO NEXT PAGE, PLEASE)

Accident Repeaters' Attitudes

MANY are the safety directors who have had personal chats with seemingly normal and able drivers and have been puzzled by the fact that they are accident repeaters. They will watch such a driver operate his vehicle smoothly and efficiently. They will shrug their shoulders, completely mys-

LOOK FOR **GUNITE**



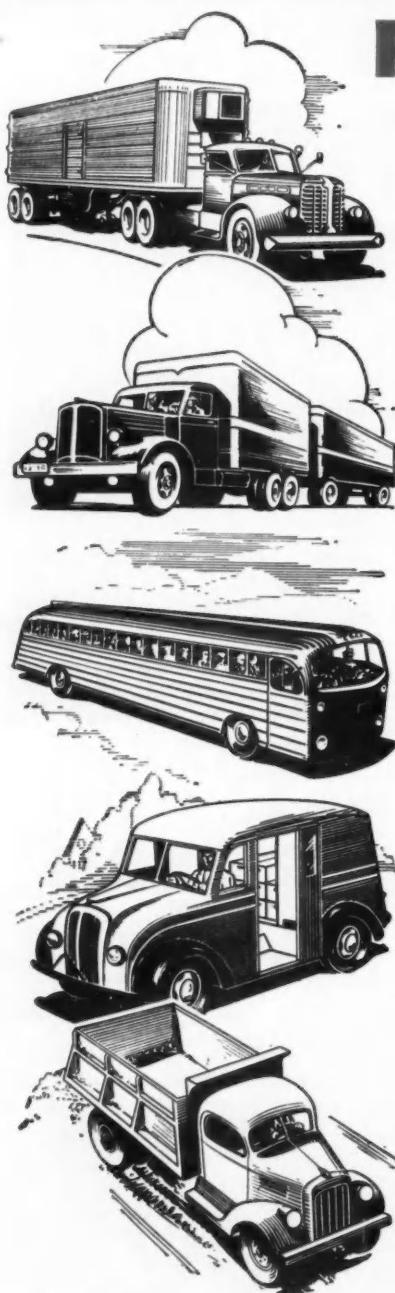
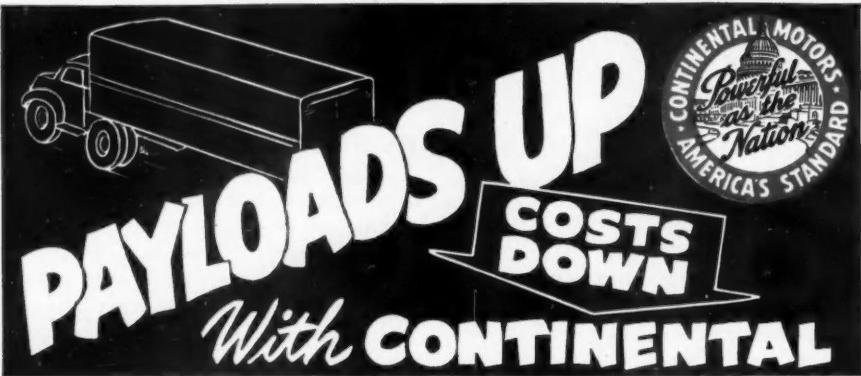
...Cast Onto the
BRAKE DRUM

ONLY A GENUINE
GUNITE BRAKE DRUM
BRINGS YOU
LOWEST COST PER MILE

Longer life and improved performance of GUNITE Brake Drums are due to the design and the GUNITE material of which they are made. GUNITE is specially alloyed, carefully processed metal with exceptionally strong, tough, rugged physical properties. GUNITE outperforms and outlasts other materials and brings your brake costs per mile to a minimum. Be sure you get genuine GUNITES when you order them. Some other brake drums are designed and painted to look like GUNITES. Genuine GUNITES have the GUNITE name cast onto the drum . . . look for it and be sure.

GUNITE FOUNDRIES
CORPORATION
ROCKFORD • ILLINOIS

GUNITE BRAKE DRUMS FOR TRUCKS, TRAILERS AND BUSES



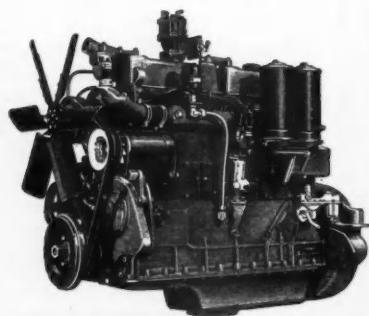
SERVICE EVERYWHERE

RED SEAL POWER

The increasing use of Continental Red Seal engines in specialized commercial vehicles of all kinds can be traced to a steadily-growing recognition of one fact: **Continental power delivers the goods for less.**

Continental power is completely specialized power. Whether the application be truck, tractor, bus, door-to-door fleet unit or what not, its power plant—if Continental—is engineered expressly for the requirements of its work. Elimination of compromise on any score whatsoever is reflected in larger payloads, lower maintenance and operating costs.

MODEL R-600 HEAVY-DUTY ENGINE
(transportation) Six-cylinder—overhead valve type—for buses, trucks and tractors. Delivers 110 to 160 net horsepower.



Continental Motors Corporation
MUSKEGON, MICHIGAN

Attitudes . . .

Continued from Page 103

in reach—indeed, PROPER SUPERVISION usually is indicated by proper attitudes among the larger percentage of the drivers.

In fact, there are countless examples of drastically improved attitudes among driver groups following the replacement of a supervisor by one who, familiar with the basic causes of faulty attitude, established an environment conducive to stimulating growth of a more desirable crop of attitudes. Good supervision begets better attitudes by waging constant war on the causes of faulty attitude:

1. Lack of understanding.
2. Lack of convincing training.
3. Lack of incentive.
4. Unfair treatment.
5. Fatigue.
6. Inexperience.
7. Managerial indifference.

Generally speaking, driver attitudes fall into two categories.

- A. Attitudes toward self.
 1. Over-confidence.
 2. Minimizing likelihood of accident.
 3. Over-estimation of skill and ability.
 4. Security derived from past safety record.
 5. Evasion of responsibility for accidents or violations.
 6. Impatience.
 7. Luck.
- B. Attitudes toward other influences and conditions.
 1. Other drivers.
 2. Weather.
 3. Ages of drivers.
 4. Sex of drivers.
 5. Acts of God.
 6. Vehicle condition.
 7. Road condition.
 8. Regard for job.
 9. Traffic regulations.

It is not to be assumed that these categories, or the factors listed in them, are complete. These do appear to be the more common ones, and in this instance, will serve as a good example of the kind of attitude that has a direct bearing on accidents.

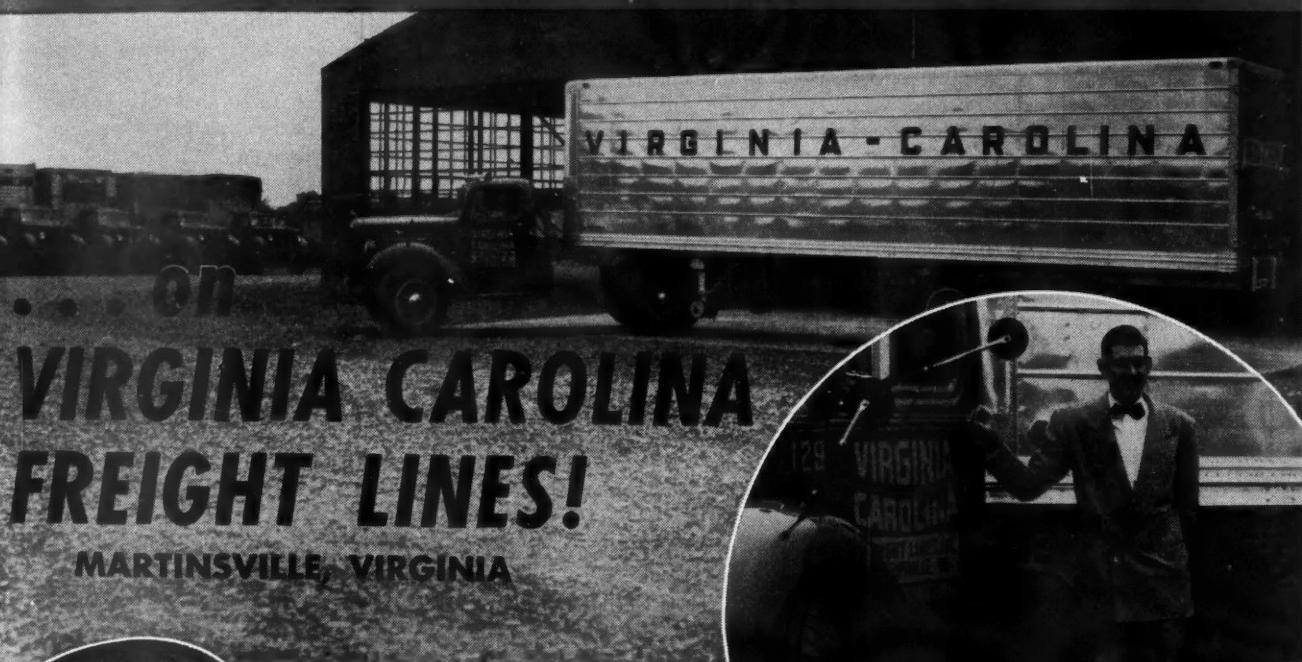
The Pyramid Approach

IT MIGHT be a good rule to remember that, in Accidents, the letter A stands for ATTITUDES. Diagrammatically, the relationship is aptly exemplified by the accompanying illustration.

The pyramid graph reflects the total accident problem. At the peak of the pyramid are the fatalities, fewer in

(TURN TO PAGE 106, PLEASE)

It's Firestone FIRST for Lower Mileage Cost..



"Our customers look to us for fast, dependable service, and we look to Firestone tires to keep our cost per mile right at bed rock. We know from our records that Firestone tires have helped us keep our tire cost in line. That means they have helped us make money."

(Signed) J. C. STONE, President
Virginia-Carolina
Freight Lines, Inc.

TRANSPORT

THE slogan of the Virginia-Carolina Freight Lines of Martinsville, Virginia, is "Nothing to sell but fast service." It takes fast service to get the business today, and it takes low operating costs to make that business pay. Like hundreds of other successful operators, Virginia-Carolina keeps its tire cost per mile at rock bottom by using Firestone tires.

Firestone tires are cutting costs for high-speed, over-the-highway haulers the country over. Truckers everywhere have proved to their own satisfaction that Firestone tires give them extra original miles, extra retread miles which mean, in the final analysis, extra low cost miles.

The first step towards cutting your tire cost is to have your Firestone Dealer or Store give you the facts about Firestone truck tires. Let him prove to you that he can reduce your tire cost per mile.

ALL TRACTION

ALWAYS SPECIFY FIRESTONE TIRES
WHEN BUYING NEW EQUIPMENT

Listen to the Voice of Firestone on radio or television every Monday evening over NBC

Copyright, 1950, The Firestone Tire & Rubber Co.

Driver Attitude . . .

Continued from Page 104

number, but constituting the "news items" and front page appeal. Providence is the deciding factor whether an accident will fall into the fatal category or elsewhere.

The majority of accident prevention programs manifest great interest in and activity against those accidents "of a serious nature" depicted near the peak of the pyramid. However, every pre-

ventive measure necessary to effectively offset the "serious" accident is identical with those necessary to eliminate needless chance taking and near-misses.

Ironically, the percentage of accidents resulting from a given cause (for example, excessive speed) remains an approximate constant down through this pyramid, regardless of severity. Approximately the same ratio of people killed by unsafe speed are injured by unsafe speed; and the same ratio of vehicles is damaged from this cause. And this ratio still holds true for near-misses, and on down into chance tak-

ing! One can only estimate how many times a given chance is taken before the accident ultimately results; and thus finds its proper place within this pyramid.

But it is important to realize that any given chance taking, if repeated often enough until the circumstances and conditions are ideal, will eventually result in an accident. For example, individuals who repeatedly take chances by backing unsafely (without first looking behind the vehicle) in due course will have their shares of near-misses and warnings, property damage, personal injury and fatal accidents.

Preventive measures, to be effective, must be directed against the habits and practices that constitute chance taking before the accident occurs—rather than the usual policy of waiting until the "serious accident" occurs, and then initiate corrective action against the same "simple" chance takings that have ensued for a considerable period of time.

Responsibility Attitude

BEFORE actually considering the personal attitude directly responsible for accidents, it might be well to explode some popular misconceptions of accident cause—the responsibility attitude.

There is a natural tendency among persons involved in accidents to immediately attempt to transfer all "blame" to some other person, object, incident or condition; such as to one or more of the following:

1. AGE—Older people will assure you that accidents are primarily caused by young whipper-snappers behind the wheel. They point out that the venturesome nature of youth impels extreme chance taking, high speed, and a general disregard of consequences.

However, if you interrogate the youngsters as to what they believe to be the primary cause of accidents, a considerable number of them will insist that it is the old fuddy-duddies on the highway whose poor vision, slow reactions, sluggish speeds, and absent-mindedness set up conditions causing accidents.

Unfortunately, each group is correct! But accidents are not the *result* of age.

It is true that a youngster is several times as likely to have an accident, per mile travelled, as is his 40-year-old counterpart. However, "experience" is a concise way of reducing perhaps 20 years of traffic misfortunes into a single word.

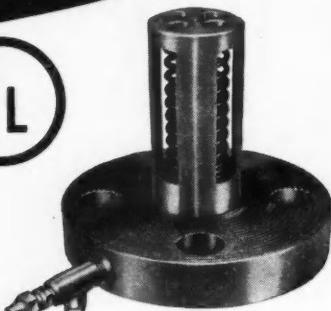
The 40-year-old SHOULD drive with greater regard to the consequences, since he has seen so much more of them. Basically, youth has better equipment.

(TURN TO PAGE 108, PLEASE)

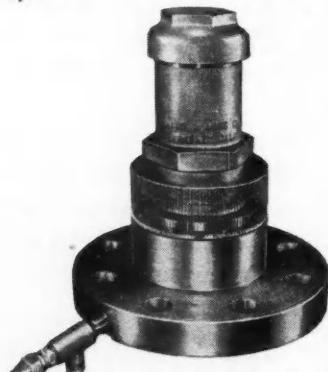
SHAND & JURS L.P.G. Valves listed by UL

Tested—and proved—Shand & Jurs Internal Hydraulic Safety Valves for L.P.G. tank discharging are now listed by Underwriters Laboratories, Inc. This impartial stamp of approval comes from the foremost testing organization in the country, whose findings are accepted by every Fire Insurance company, Fire Prevention bureau and many courts.

What does this mean to the L.P.G. transporter? He can be assured that Shand & Jurs Internal Hydraulic Safety Valves for discharging L.P.G. tanks will provide real safety and dependability, preclude loss of valuable products through accidents such as collision or contiguous fire, and reduce L.P.G.'s chance of endangering operating personnel, the public and equipment. Contact the factory or the nearest S&J branch listed below for complete information on how to make L.P.G. tank discharging safe.



S&J Fig. 13810
3/4" Internal Safety Valve designed expressly for discharging L.P.G. tanks. Can be opened only by S&J Operator which is a part of this system.



S&J Fig. 13800
2" and 3" hydraulically operated Internal Safety Valve designed for L.P.G. tank discharging.





DESTINATION...ANYWHERE

The Nations motor freight carriers

Defense plants, more safely located off the beaten trail—hundreds of them. Distributors catering to rural markets—hundreds of them, too. Motor freight transportation is their life blood. Flexibility—taking goods from where they are to where they aren't—destination anywhere—that's an exclusive service of the motor freight carriers—war or peace.

That's one reason why for-hire operators today carry 80% more freight than they did ten years ago. There are others—dependability, door-to-door delivery, fast and frequent schedules.

Brown aluminum trailers, operating in the fleets of the nation's motor freight carriers, large and small, are helping do the job efficiently and economically. More and more companies are switching to Browns. Brown lightweight trailers exploded the old-fashioned theory that you can't build a lightweight trailer that will out-last—outlook—and out-earn heavy trailers.

Today Brown is widely copied—acknowledgment that you can't beat a Brown. Yes—Browns are allied with the trucking industry in its vital freight service—destination anywhere.



BROWN TRAILERS, INC., Toledo, Ohio • Spokane, Wash.

Driver Attitude . . .

Continued from Page 106

ment for safe driving (vision, reaction time, hearing, and other faculties) providing he USES them and, above all drives with regard to traffic conditions. Youth lacks only experience, and this he will acquire either through his own hit-or-miss process of learning—or by being systematically taught how to drive properly. The records clearly show that *properly trained* youths are

better drivers than their elders. The poor accident record of youthful drivers is actually the natural product of untrained operators, thrust out on their own by a tongue-clucking society of elders!

2. WEATHER is unjustly blamed for many accidents. It is common to hear one point out that his accident was "caused" by rain or snow or sleet. The truth is that weather rarely causes an accident: Instead, it sets up conditions which effectively test whether the driver is sensible enough to adjust his speeds accordingly.

When a person states that "he couldn't see a thing because of rain" and, therefore, ran into some object on the highway, in truth, he is trying to disguise the fact that his speed was too great under the circumstances to permit him to stop safely within the clear distance ahead.

It is particularly significant to know that "bad" weather (snow, wind, hail, rain, fog, etc.) actually figures in less than one-fifth of all accidents.

3. ROAD CONDITIONS—Poor road conditions are unjustly "blamed" for many accidents. National Safety Council accident facts show that at least 70 per cent of all accidents occurred where highway conditions were normal and without defect. In only three cases out of every 10 is there a poor road factor, such as loose gravel on highway, icy road, bump in pavement, or other hazardous condition.

Even in these cases, rather than transfer blame to the road condition, the individual involved in such an accident should be brought to realize that it was his failure to adjust his driving to the existing condition that really caused the accident.

4. ACTS OF GOD—Many drivers consider ice on highways, or slippery roads as "Acts-of-God" accidents. This is not true. An Act-of-God is a phenomena over which man has no control nor opportunity, whatever, to effect adjustment. Less than one per cent of all accidents involve Acts-of-God, in the true sense, and these include such cases as damages from hail, tornado, tidal wave, lightning and similar phenomena.

5. SEX—Most men stubbornly maintain that women, as a group, are poor drivers; they emphasize this belief on appropriate occasion with the time-worn statement, "That's a woman driver for you!" While complete studies are not available, it is significant to know that in several controlled studies, women driving under identical conditions (WACS) have not only driven as safely as men, but have actually excelled.

It is known that men drive approximately 90 per cent of the miles, but they are involved in 95 per cent of the fatal accidents. It would be particularly interesting to know what per cent of all fatal accidents were *caused* by them. It should suffice to say that sex is not the cause of motor vehicle accidents, nor even a significant factor.

It is generally true that the average male driver takes the wheel under the more difficult driving conditions; such as night driving, fatigue, drinking, long trips, slippery road, heavy traffic, or where higher speed is necessary. Perhaps this general reluctance on the part

SAVES 2 out of 3 hours on each engine job!



A motor rebuilding shop in the Southwest introduced electric Impactools on 5 hand operations with amazing results, which speak for themselves:

	By hand	With Impactool
1. Disassembly	70 minutes.....	30 minutes.....
(longer if rusted)	(even if rusted)	
2. Installation of Crankshaft and Main Bearings	30 minutes.....	10 minutes.....
3. Connecting Rod Bearing Assembly	40 minutes.....	15 minutes.....
4. Installing Cylinder Head.....	20 minutes.....	5 minutes.....
5. Installation of Oil Pan.....	20 minutes.....	5 minutes.....
Total Time consumed per unit	180 minutes	65 minutes

In the final analysis, shop owners and mechanics are interested in doing the job faster and easier, and the chief reward for putting power tools to work is probably expressed best in dollars. The 115-minute saving per engine in this shop resulted in an additional net profit of over \$50,000 in one year.

Send for your copy of Impactool Case History No. 5082-6.

Ask your Jobber for an Impactool demonstration.

No Motor Burn-Outs,
can't stall motor

No-Kick, No-Twist
to operator

Ingersoll-Rand

11 Broadway, New York 4, N.Y.

ORIGINATOR OF IMPACTOOLS—air and electric

573-18

Runs Nuts	Drills Masonry	Drives Studs	Bores Wood
Taps	Wire Brushes	Saws Holes	Extracts Broken
Reams	Drives Screws	Drills	Studs

(TURN TO PAGE 110, PLEASE)

DeVILBISS



Want Professional Refinishing?

If you paint your own vehicles, you'll want a professional job. That means the use of DeVilbiss Spray Guns, Exhaust Equipment, Air Compressors and Hose. If your vehicles go out for painting, send them to the shop which uses DeVilbiss equipment and methods. Remember, the original finish of the vast majority of motor vehicles is applied with DeVilbiss equipment.



In professional painting TWO FACTS STAND OUT!



Finish is sprayed on

1

Did you ever see a finer finish than that shown on the tractor-trailer unit above? Looks as good as the day it came out of the factory brand-new. The only tip-off is the tires.

It's a professional job—done with DeVilbiss Equipment: Paint Spray Booths, Spray Guns, Compressors and Hose.

Frankly, we're mighty proud of



DeVILBISS IS FIRST!

2

it. You can be, too. Because you can turn out factory-quality finishes in your own paint department or shops with DeVilbiss Standard Equipment designed and built specially for jobs like yours.

Save time, cut your painting costs! Keep that new appearance on your vehicles with proved painting equipment that's used in the vast majority of motor truck,

bus and motorcar plants. Let us show you how. Ask your jobber, or write direct to the factory for complete data. There is no obligation.

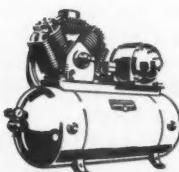
THE DEVILBISS COMPANY

Toledo, Ohio

Windsor, Ontario • London, England

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Branch Offices in Principal Cities



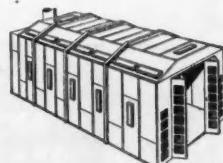
Air Compressors



Hose and Connections



Spray Guns



Spray Booths

FOR BETTER SERVICE, BUY

DeVILBISS



Driver Attitude . . .

Continued from Page 108

of women drivers to take needless chances is one of the reasons why their driving records compare so favorably with that of their male counterparts.

6. LIQUOR—Liquor, per se, does not cause accidents. Its use may. Simple demonstrations will clearly show that even one bottle of beer measurably retards the thinking ability of the average person. This does not mean he will be "drunk" nor "intoxicated" in the

legal sense. But it will definitely slow down reaction and decision to the point where it is easily measured. This dazed reaction, innocent and unnoticed, is the real hazard in driving after drinking.

Liquor is a factor in approximately one fourth of our fatal accidents. It is possible to convince drivers by demonstration regarding the measurable retarding effect of small amounts of alcohol on the nervous reactions; it is even conceivable that many people (who now erroneously believe alcohol stimulates their driving faculties)

might make safe adjustment by lessening driving speeds and increasing following distances to offset such loss of ability.

Personal Attitude

NOW we will consider direct factors that have an important bearing on a driver's safety record. Some of these can be detected quite easily, others not. All, or most, can be classified as intangible; brought out only by questioning or admission by the driver. Each of these factors is readily subject to improvement by effective training measures.

1. OVERCONFIDENCE — No one expects to have an accident. Remembering that 1,100,000 people occupied hospital beds last year because of accidents, it becomes particularly significant to remember that not a single one of them actually expected or intended to have an accident! Up until the last screech of brakes or blare of horns, your accident victim was sublime in his assurance that he could avert or prevent his being involved in an accident—however wrong he turned out to be.

Most persons will drive past the scene of a bad accident, feel a momentary wave of pity for the unfortunate, and then resume their old happy and cocksure ways, seemingly secure in childlike beliefs that they will not have accidents.

Since the invention of the motor vehicle, almost one million persons have perished with that vain belief, and millions upon millions have spent days, weeks or months in the hospital with ample time and cause to reflect on the utter fallacy of the curious belief that "no one expects to have an accident."

2. MINIMIZING ACCIDENT SERIOUSNESS—Closely paralleling this is the universal belief that "accidents may happen, but I don't expect the worst." Some of us are resigned to what we call "little accidents." We forget that only Providence determines whether or not the accident is trivial or tragic.

The individual who backs his vehicle into some object, breaking the tail light, cheerfully dismisses the thing as "a little accident." Less fortunate individuals doing precisely the same thing inadvertently will catch some person behind their bumpers—resulting in severe injury or death.

Blissfully, we anticipate that the worst will always happen only to the "other fellow"—yet, millions have survived, and millions have died, or will die, to refute this belief.

3. OVERESTIMATING ONE'S SKILL—Every driver believes himself to be an expert. Nearly everyone sub-

(TURN TO PAGE 112, PLEASE)

HANDY GOVERNOR Characteristics and Advantages

- 1 Wide range of governed speeds without the necessity of any change in governor assembly.
- 2 Controlled light load speeds.
- 3 Sharp governor cut-off—minimum horsepower loss.
- 4 Low speed droop.
- 5 Final full load and no load factory calibration on air flow machine assures you accuracy and uniformity in production.
- 6 Simple to adjust.
- 7 Simple mechanical design—only one moving shaft.
- 8 Sturdy corrosion-free construction.
- 9 Stainless steel needle bearings that insure instant response.



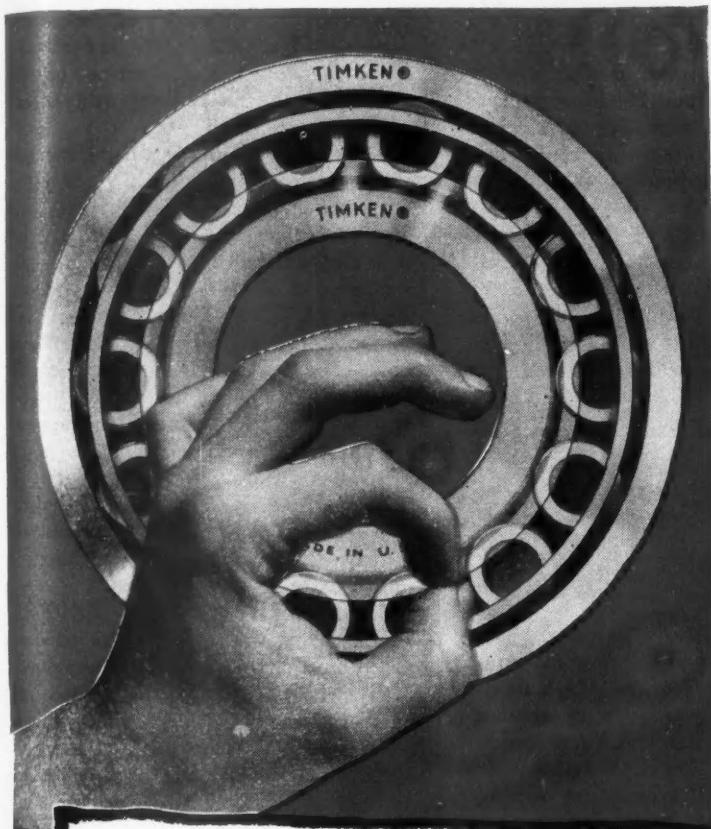
NO OTHER
VELOCITY GOVERNOR
CAN GIVE YOU ALL
THESE ADVANTAGES



KING-SEELEY
CORPORATION

ANN ARBOR MICHIGAN

PLANTS IN
ANN ARBOR
GRAND RAPIDS
YPSILANTI



"A precision product"

Timken® tapered roller bearings are made on the most precise production machinery of its kind. And every roll and race is checked and re-checked to insure microscopic tolerances. For instance: the angles of cups, cones and rollers are checked to a single second of an arc—less than one millionth part of the circumference of a complete circle.

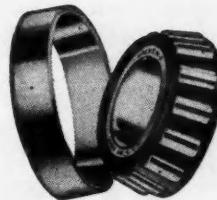
Only Timken bearings give you *all* these advantages: (1) advanced design, (2) precision manufacture, (3) rigid quality control, (4) special analysis steels. They are first choice with leading truck manufacturers.

Make sure the tapered roller bearings you use for replacement are always marked "Timken". And send now for the free booklet, "*Timken Tapered Roller Bearings, Their Care and Maintenance*". Write Dept. JC-1, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

*Another reason why
TIMKEN bearings are first choice
with truck manufacturers*

**SINCE THEY'RE BEST
WHEN THE TRUCK IS
NEW, THEY'RE BEST FOR
REPLACEMENT, TOO!**

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS



NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

Driver Attitude . . .

Continued from Page 110

scribes to the existence of "experts" in the fields of law, medics, engineering, and such higher pursuits; but rare, indeed, is the individual who will acknowledge that "expert" typifies a rare individual or group of individuals who drive particularly well.

Bring up the subject of "how to drive" in almost any group, and the ensuing argument will reveal that nearly everyone has his own "expert"

opinion and conviction as to how accidents might best be prevented, as to how they are caused, and particularly how he, "the expert" successfully prevents them. Yet, so many expert drivers (both real and self-appointed) have fallen victim—perhaps to others deemed less expert.

4. PRIDE IN PAST SAFETY RECORD—High among the items of false security with which the average driver cloaks himself is the "I haven't had an accident in the last — years!" complex. For some curious reason, Mr. Average Motorist believes that he

builds up an immunity against accidents by dint of his past experience. Remember, that the averting of an accident is at least a two-fold enterprise.

The fact that I am fortunate enough to have driven for five or 10 years without accidents may be a tribute to my own carefulness to date; more likely, it is also a tribute to the alertness and readiness of all the other drivers whom I may have jeopardized during that period. Had Providence so dictated, only one careless "other guy" could have turned a number of my "near misses" into serious accidents. The record of past driving is not guaranty of today's performance.

Annually many graves are filled with well-intended persons who could honestly say, "I never had an accident—until this one."

5. DEPENDENCY ON EXPERIENCE—Next among the false axioms are those that pertain to "experience." Many who have driven for a number of years logically contend that experience is the best teacher. Less experienced drivers, who have been schooled and actually taught to drive, will contend that experience is a poor teacher—that most of our bad habits are learned in the school of experience.

The records do show that youngsters (18 to 20) are involved in approximately two-and-a-half times as many accidents per mile travelled as are their 40-yr elders. This seems to suggest that experience is a good teacher. Viewing it more candidly, it becomes apparent that the entire class of 40-yr olds constitute a "survivor" group.

Experience is really a concise word for condensing years of "training media" such as: Innumerable collisions, dented fenders, arrests, and warnings, protestations by passengers, "near-misses," and even the experience of having to pay for accidents—all these are combined in the full, rich meaning of "experience."

Essentially, all that the 20-yr old lacks to make him a safer driver is the time necessary for him to upset his vehicle, to crash into other vehicles, to skid off a few curves, to be arrested or warned a few times. If he can do all this—and survive—he, too, will be a mollified and more cautious person by the time he has survived to the age of 40.

Needless to say, experience is no "insurance" as to how well a person can and will drive. Experience is a training process, but sometimes its examinations are flunked—for keeps! Supervision, training, experience, such as is universally understood and desired for airplane pilots, proves just as

(TURN TO PAGE 114, PLEASE)

BURD Super Hi-Speed PISTON RINGS



Faithful performers where oil control is a major problem. High flexibility of the cast iron ring assures conformance with cylinder walls. Steel segments installed below the cast ring mean maximum wiping action without excessive wear. They're engineered to whip tough jobs. Install them with confidence!

BEST COMBINATION FOR OIL CONTROL

Fleet owners vote for this replacement combination: (1) Install Burd Super Hi-Speeds; (2) Then take the extra step for even better oil control—install Burd Valve Packing. It's a sensible investment that pays well in oil-saving dividends. Ask your Burd Jobber or write us for details.

BURD SUPER HI-SPEED OIL RINGS + BURD VALVE PACKING

BURD VALVE PACKING

Take care of worn valve guides whenever you re-ring. Install Burd, the original top-of-guide Valve Packing. Keeps oil out of the firing chamber; keeps oil in the guide. Easy to install, costs so little, saves so much—many operators make it a must on every overhaul job.



BURD PISTON RING CO. • ROCKFORD, ILLINOIS

PISTON RINGS
PISTON SKIRT EXPANDERS
BURD DE-GLAZING TOOL
GET THEM FROM

BURD
AUTOMOTIVE
PRODUCTS

VALVE GUIDES
VALVE PACKING
HaDees HOT WATER HEATERS
YOUR JOBBER



new!

Only years and years of **experience** could produce a tank trailer like this

You have to build tankers and live with them in over-the-road operation for many a long year to learn how to build the kind of durability and operating economy offered here. Its handsome appearance reflects the completeness of this new tank trailer's engineering perfection—a perfection that results in the lowest haulage cost per gallon possible. We sincerely believe it has no equal on the road today. Check a few of its features below. Then let us show you how dollar-wise you will be to put this new tanker to work in your fleet.

Strong—Light—tank is lightweight, hi-tensile, low alloy tank steel. Built to I.C.C.-M.C. 303 material and construction specifications. Bubble dished heads, with new-design reinforcing braces. Strongest, most leak proof construction known.

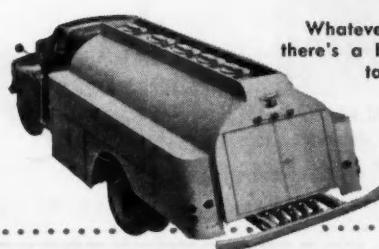
Clean—fully enclosed top flashing protects manholes, prevents spillage from defacing exterior of tank by drain discharge through tank.

Safety doors—located in trim skirting at side rear give maximum availability, prevent hose dropping out accidentally.

Load control—18" to 42" adjustment (fore and aft) of upper 5th wheel plate equalizes load distribution to different tractors.

Trim—removable, clipped-on skirting easy to repair or replace if damaged. Cuts maintenance cost.

Quick drain, easy haul—new bottom design gives lower center of gravity, maximum maneuverability, lessens drag. Quick draining sumps empty tank to last drop.



Whatever liquids you haul,
there's a Highway trailerized
tank or truck tank to
give you top pay-
load at bottom
cost.

HIGHWAY TRAILER CO.
Edgerton, Wisconsin

Please send information on TRAILER TANKS (SINGLE AXLE TANDEM AXLE TRUCK TANKS)

Name.....

Company..... Position.....

Address.....

City..... State.....

Driver Attitude . . .

Continued from Page 112

reliable for the painless development of competent drivers!

6. MEETING DRIVER TEST STANDARDS—Many people believe that the possession of an operator's permit or a driver's license qualifies them to drive. As a matter of fact, it is common knowledge that most operator permits are issued primarily as revenue-raising measures.

Even in states with fairly high stand-

ards for driver tests, these standards are often applied as a one-time measure. A lad of 20, taking a physical examination is issued a permit which may remain valid for the balance of his life. Too often, no provision is made for a periodic re-examination to discern whether physical defects may have developed.

More importantly, being able and knowing how to drive is not enough. The fact that a person may possess knowledge of the law or be blessed with high psycho-physical standards become meaningless unless he applies them.

There are too many instances of individuals with keen eyesight who are not alert, and who fail to see a situation shaping up. There are too many cases of persons with quick reaction time who, for sundry reasons, fail to move quickly enough to avoid accident situations. And there are innumerable cases of individuals who, knowing the law, blissfully disobey it at stop signs, slow signs, and other areas of control.

Far more important than merely being able to drive, is the consistent application of one's self fully to the effort. Far more important than driving ability is driving attitude. It is well recognized that a person with limited abilities but a proper attitude may go a long way toward safely adjusting his driving and performance to his limitations.

Conversely, it is tragically obvious that otherwise qualified and able persons easily offset everything by chronic display of poor driver attitude. Too many accident reports are prefaced with the phrase, "I didn't think," "I didn't know," "I didn't believe," "I didn't hear," "I didn't expect"—all indicative of faulty attitude.

I am not decrying the importance of ability. I am only emphasizing the fact that the finest ability is constantly and readily offset by poor attitude on the part of our driving public. As drivers, we give only a fractional performance; hence, the more effective the training, the higher the degree of performance.

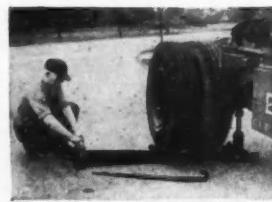
7. ERRONEOUS CONCEPTIONS—Drivers are "ignorant." The curious optimism of the average driver toward himself and his vehicle reflects a woeful lack of learning in the driving field. For example: I have interrogated hundreds of drivers regarding how quickly they can stop their vehicle at a given speed in an emergency. Ninety per cent of the uninitiated will guess incorrectly and optimistically by more than 40 ft! There are few pessimists among drivers.

Interrogation of drivers who have just returned from rear-end collisions indicates that this unwavering optimism is usually unaffected by the accident! One driver, whose vehicle had just skidded 77 ft into the rear of a vehicle

(TURN TO PAGE 116, PLEASE)



SWING IT—Bring dollies into position for removing wheels without lifting.



LEVEL IT—Pull wheels easily without damage to bearings or seals.



THE CLEVELAND PNEUMATIC TOOL CO.

Automotive Division

3769 EAST 77th STREET • CLEVELAND 5, OHIO

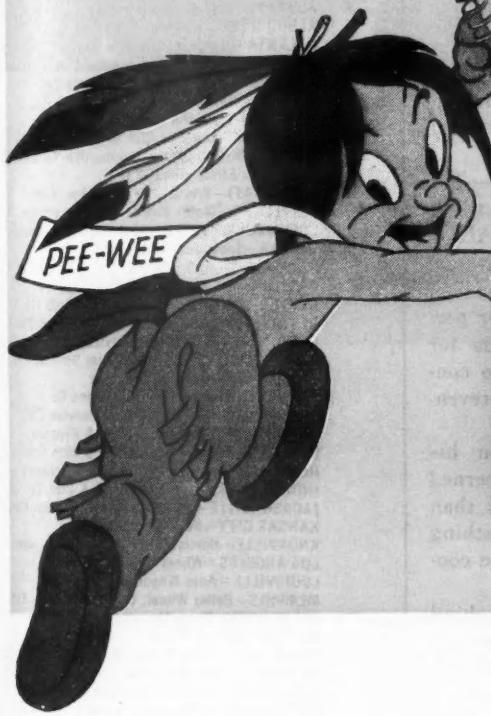
We would like to know more about the DRUM Safety JACK.

Name _____

Address _____



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great
news!



Thompson
has added an
**AUTOMATIC
TRANSMISSION
MANUAL**
to its New 1951
Technical Library!

THESE 3 NEW 1951 VOLUMES
CAN ALL BE YOURS—
THROUGH YOUR
THOMPSON PRODUCTS DISTRIBUTOR

EXPERIENCED AUTOMOTIVE REPAIRMEN
KNOW how helpful past issues of Thompson's
REPAIR & TUNE-UP MANUALS have been.

READY NOW are TP's LATEST, 1951 EDITIONS
of VOL. I, covering PASSENGER CARS, and VOL.
II covering TRUCKS, BUSES, TRACTORS, DIESEL
ENGINES, ETC.—to make the work of mechanics
throughout the world *quicker, easier, better and more
profitable*.

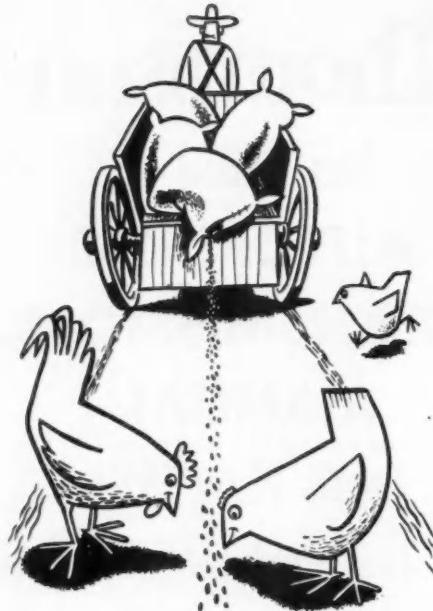
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the famous TP Technical Library—VOL. III . . . on
AUTOMATIC TRANSMISSIONS! This badly needed

AUTOMATIC TRANSMISSIONS manual, which many
repairmen asked us to prepare, covers Buick, Cadillac,
Chevrolet, Chrysler, De Soto, Dodge, Lincoln, Mer-
cury, Nash, Oldsmobile, Packard, Pontiac, Studebaker,
etc. — Diagnosis, Towing Instructions, Linkage and
Control Settings, External Adjustments, Procedure
for Removal and Re-installation, Operating Tests,
Lubrication, Special Characteristics of each Unit and
Car Make, etc. Plenty of illustrations, charts and how-
to-do-it pictures, and a "quick-find" index help to make
VOLUME III indispensable in the modern repair shop,
and a worthy companion for the new No. I and II
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UNBRAKO

has continuous grain flow, too

Unbroken grain flow lines, following the contour or profile of UNBRAKO Screws, eliminate the straight planes of weakness along which shear can occur. Heads and threads are stronger and have greater fatigue life. Write for your UNBRAKO Catalog.



Knurling of Socket Screws originated with "Unbrako" in 1934.

-SPS-

STANDARD PRESSED STEEL CO.
JENKINTOWN 5, PENNSYLVANIA

Driver Attitude . . .

Continued from Page 114

ahead, sincerely contended that his "brakes had not held." He was perfectly willing to wager money that he could stop any vehicle "with good brakes" within 8 ft at 35 mph—subsequent experiment with his own vehicle proved him wrong by 72 feet! We are woefully ignorant of the actual performance abilities of ourselves and our vehicles. This ignorance and faulty attitude is a reflection on the effectiveness of our training methods.

But it seems axiomatic that most drivers are born optimists regarding the performances of themselves and their vehicles.

8. PASSING THE BUCK — The eighth axiom to consider is the curious conflict in the viewpoint of FAULT versus PREVENTION. Persons involved in accidents immediately look for errors on the part of the other person. It seems almost sacrilegious for drivers involved in an accident to consider it in the simple light of preventability on their own part.

The average driver and even his supervisor seem much less concerned with the prevention of accidents than with the problem of finding something or someone whereon blame may be conveniently transferred.

In one case, a truck stopped behind another vehicle on a steep hill because of a traffic light. The lead vehicle, in starting up, rolled back into our "hero," damaging the front end of his vehicle. This driver and his supervisor were equal in their sincerity in blaming the accident onto the "carelessness of the other driver."

Investigation actually revealed that our truck driver had pulled up and stopped within four or five feet of the other vehicle on a steep hill—not only inviting disaster but denying the precious necessary time and distance to give a warning signal, should the other vehicle start to roll back.

Less than one month later, another driver from this same location chanced to stop on a similar hill. On this occasion, the "other guy" pulled up behind our vehicle and stopped "right under my tailgate" according to our driver's report of the accident. In starting up, our vehicle rolled back "just a little" damaging the radiator grille of the other vehicle. This time, our driver and his supervisor sincerely contended that the accident was caused by carelessness on the part of the individual who had stopped behind us, because "he had followed too closely!"

Actually, in each of these instances
(TURN TO PAGE 118, PLEASE)

Budd Wheel Distributors provide the same service described in this advertisement

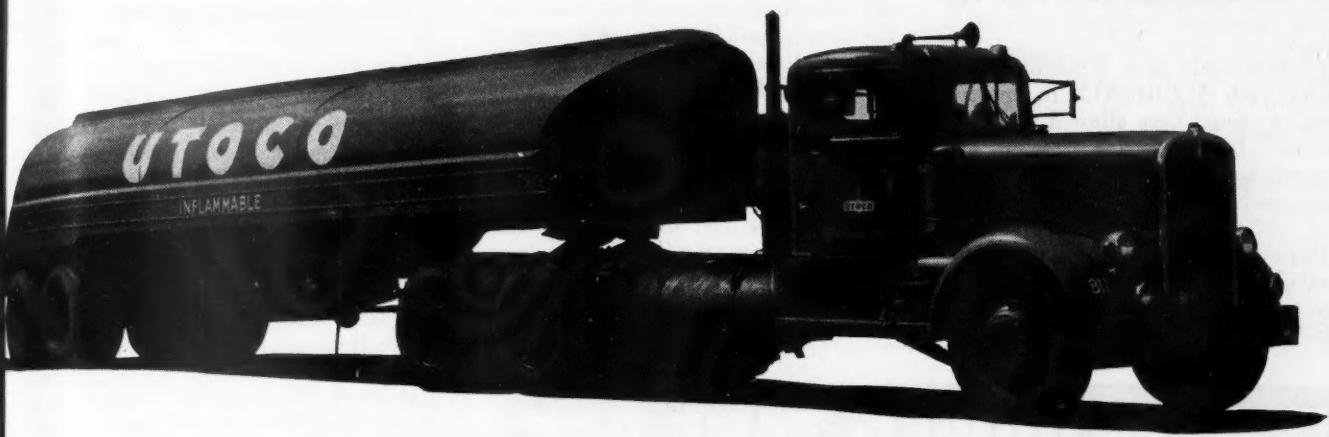
AKRON—Motor Rim Manufacturers Co.
ALBANY—Wheels, Incorporated
ALBUQUERQUE—Wheels & Brakes, Inc.
ATLANTA—Harris Automotive Service, Inc.
BALTIMORE—R. W. Morris & Sons, Inc.
BIRMINGHAM—Wheel, Rim & Parts Co.
BOSTON—New England Wheel & Rim Co.
BUFFALO—Frey, the Wheelman, Inc.
CHARLOTTE—Carolina Rim & Wheel Co.
CHATTANOOGA—Harris Automotive Service, Inc.
CHICAGO—Stone Wheel, Inc.
CINCINNATI—Rim & Wheel Service, Inc.
CLEVELAND—Motor Rim Manufacturers Co.
COLUMBUS—Hayes Wheel & Spring Service
DALLAS—Southwest Wheel, Inc.
DAVENPORT—Stone Wheel, Inc.
DAYTON—Rim & Wheel Service, Inc.
DENVER—Quinn & McGill Motor Supply Co.
DES MOINES—Des Moines Wheel & Rim Co.
DETROIT—H. & H. Wheel Service, Inc.
EVANSVILLE—Auto Wheel & Rim Service Co., Inc.
FARGO—Wheel Service Company
FORT WAYNE—Wheel & Rim Sales Co.
GRAND RAPIDS—Rim & Wheel Service Co.
HARRISBURG—Standard Wheel & Rim Co.
HARTFORD—Connecticut Wheel & Rim Co.
HOUSTON—Southwest Wheel & Equipment
INDIANAPOLIS—Indiana Wheel & Rim Co.
JACKSONVILLE—Southeast Wheel & Rim Co.
KANSAS CITY—Borbein, Young & Co.
KNOXVILLE—Harris Automotive Service, Inc.
LOS ANGELES—Wheel Industries, Inc.
LOUISVILLE—Auto Wheel & Rim Service
MEMPHIS—Beller Wheel, Brake & Supply Co.
MILWAUKEE—Stone Manufacturing Co.
MOLINE—Mutual Wheel Co.
NASHVILLE—Beller Wheel, Brake & Supply Co.
NEWARK—Automotive Safety Inc.
NEW HAVEN—Connecticut Wheel & Rim Co.
NEW ORLEANS—Southern Wheel & Rim Co.
NEW YORK—Wheels, Incorporated
OKLAHOMA CITY—Southwest Wheel, Inc.
OMAHA—Morgan Wheel & Equipment Co., Inc.
PEORIA—Peoria Wheel & Rim Co.
PHILADELPHIA—Thomas Wheel & Rim Company
PITTSBURGH—Wheel & Rim Sales Co.
PORTLAND—Six Robblee's, Inc.
PROVIDENCE—New England Wheel & Rim Company
RALEIGH—Carolina Rim & Wheel Co.
RICHMOND—Dixie Wheel Co., Inc.
ROCHESTER—Frey, the Wheelman, Inc.
SALT LAKE CITY—Henderson Rim & Wheel Service
SAN ANTONIO—Southwest Wheel & Equipment
SAN FRANCISCO—Wheel Industries, Inc.
SEATTLE—Six Robblee's, Inc.
SOUTH BEND—Wire & Disc Wheel Sales & Service
SPOKANE—Bearing & Rim Supply Co.
SPRINGFIELD, ILL.—Illinois Wheel & Rim Co.
SPRINGFIELD, MO.—Borbein, Young & Co.
ST. LOUIS—Borbein, Young & Co.
ST. PAUL—Wheel Service Co.
SYRACUSE—Colbourn Wheel & Rim Service, Inc.
TACOMA—Six Robblee's, Inc.
TOLEDO—Wheel & Rim Sales Co.
WICHITA—Borbein, Young & Co.

EXPORT

CLEVELAND—C. O. Brandes, Inc.

CANADA

CALGARY—Fisk Tire Service Ltd.
EDMONTON—Alberta Wheel Distributors, Ltd.
MONTREAL—General Automobile Equipment Ltd.
TORONTO—Wheel & Rim Co. of Canada, Ltd.
VANCOUVER—Wheels & Equipment, Ltd.
WINNIPEG—Ft. Garry Tire Service Ltd.



A MILL A MILE!

One mill—one-tenth of a cent a mile! That's the cost per tire to the Utah Oil Refining Company since they switched to Budd Wheels with wide base rims.

Gunter R. Hiller of the Henderson Rim and Wheel Service Co., Budd Wheel distributor in Salt Lake City, writes, "The Utah Oil Refining Co. reports a 30% increase in tire mileage. They had been using old type wheels with narrow rims. Early this year we recommended a changeover to new tapered bead seat, wide base Budd Wheels."

Initial tests were made on the UTOCO fleet of 24 tractor-trailer units, running an average of 14 hours a day over desert and mountainous terrain. "Results were so successful in cutting tire costs per mile, eliminating tube pinching and blowouts," Mr. Hiller goes on, "that during the Summer and Fall UTOCO changed over all their equipment. What's more, they intend to specify Budd Wheels with wide base rims for all new tractors and trailers they purchase."

The above is only one of hundreds of examples of how Budd Wheel distributors help solve tire-wheel problems. If you face such a problem, call your nearest Budd distributor. His name is in the column at the left.

The Budd Company, Detroit 14

GENUINE

Budd

COLD TAPERED DISC

WHEEL

Driver Attitude . . .

Continued from Page 116

our driver could have HELPER PREVENT THE ACCIDENT! In the first case, he should have allowed a greater interval. In the second case, it was demonstrated to him that it was totally unnecessary to allow the vehicle to roll back while starting on a hill.

Having discarded these misconceptions of accident cause, let us study the true causes of motor vehicle accidents.

They are the "simple," common, everyday chance takings; such as, driving too fast for conditions, stopping or turning without giving a signal, following too closely, pulling into traffic without looking, disregarding a stop sign or red light, being in wrong lane, attempting to pass on hill or curve, etc. These are neither sensational nor new.

Intentionally or otherwise, everyone of us is occasionally guilty of these driving errors. But these are the real causes, these are the factors that must be improved before we can expect accident prevention.

Various physical conditions may contribute to accidents, and are well known and more popular than the true causes. Various phenomena of weather, visibility, road surface, etc., form convenient excuse or alibi for accidents.

Consideration of accident cause is not a stressing of the "fault" factor; rather, it is stressing one's ability to prevent or avoid "accident," regardless of fault. To the safe driver, there is no such thing as "right-of-way"—HE EXPECTS THE OTHER PERSON TO COMMIT DRIVING ERRORS. He anticipates a bonehead stunt on the part of other traffic. He is not surprised when a child dashes out in his path. Expecting emergency situations, he is ready for them. His philosophical outlook on other traffic is that he believes every other vehicle is driven by either a beginner, a drunk or a stranger in the community—hence, he finds himself constantly, however pessimistically, prepared for the emergency. Such is the attitude of the safe driver. It is a cultivated attitude.

Accident Prevention

LAST and most important in the area of accident prevention is "getting out of tight spots" versus "staying out." Unfortunately, the popular concept of a skillful driver evolves around one who is capable of clever manipulation and dexterity in the handling of a motor vehicle in emergencies. Commonly heard is the comment, "He is an awfully fast driver and I don't like to ride with him, but I know of no one I would rather be with in an emergency."

Let us face the facts: The true test of a skillful driver is simply his capacity for STAYING OUT of tight situations! It is axiomatic that an individual who exposes himself less often to accident situations will find himself less frequently involved in accidents. Drivers who constantly follow too closely, who cut in and out, who take needless chances, who try to bluff their way through traffic in the vain belief that such is "economy of time"—these drivers (if they live) finally should learn

(TURN TO PAGE 121, PLEASE)



POWER TAKE-OFF Universal Joints

Built for long service.

High capacity.

Lightweight.

Complete range
of bore sizes.



1500-1600 series
standard length.

NEAPCO 1500-1600 SERIES TYPES

STANDARD LENGTH (shown above): 5" long, needle roller and plain bushing types.

8" SLIP LENGTH: needle roller and plain bushing types. This joint and the standard length satisfy most all needs for single joints and drive shaft assemblies.

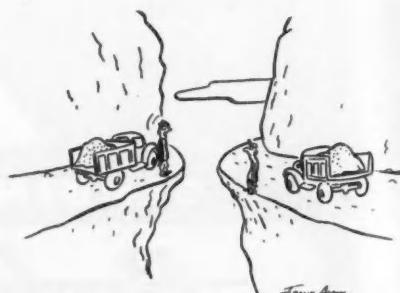
UNWELDED CENTER ASSEMBLY: employs splined slip stub and 1 1/4" O.D. tubing. Can be cut to size. End yokes supplied separately.

TELESCOPING DRIVE SHAFTS: square and rectangular shaft and tubing. Clamp type and quick disconnect yokes to fit all standard tractor PTO shafts.

Selected for original installation by leading manufacturers of dump bodies, lime spreaders, and agricultural implements.

Ask your Automotive Jobber for Neapco PTO's.

NEAPCO PRODUCTS INC., POTTSTOWN, PA.



"... Then did you turn left at the bridge?"

Driver Attitude...

Continued from Page 118

that time is lost only by those who seek to save it.

One of the best tests of a driver's skill is this: Do passengers readily relax or fall asleep while riding with him—or does his chance taking keep them nervously apprehensive at the constant parade of needless hazardous situations?

Measuring Attitudes

IF FAULTY attitudes are to be improved, they must be identified and measured. The common media for modifying driver attitudes includes safety meetings, demonstrations, interviews, lectures, publicity, training films, and various other incentives. Unfortunately, there is not yet available an accurate method for measuring driver attitude.

It is known that "accident-prone" drivers are generally characterized by records of insubordination and absenteeism, and a history of many violations. The Siebrecht Attitude Scale developed at the Center for Safety Education, New York University, consists of a series of 40 items, each presenting a statement concerning some issue in traffic safety. The examinee indicates the extent of his agreement or disagreement toward each issue presented.

Another type of attitude test is under development by your author. It permits the examinee to indicate his relative difficulty in driving, his prejudices, and his beliefs. Recapitulation of test items reveals specific areas or operations warranting both individual and group training emphasis, improved supervision, or other corrective action. Thus this test, by permitting the driver to tell his primary troubles, enables the supervisor to take appropriate corrective action.

Samples taken from this test follow:

"Everyone must take some chances when driving. Some take more chances than others. The purpose of this test is to find out which must take the greatest chances while driving. You will not be penalized in any way for your answers, since they will be used to help determine the primary problems for the average driver."

"There probably are no 'wrong' statements, but some are more important or accurate than others. Number each of the items below in accordance with their importance (1 means *most important* or *most accurate*; 4 means least important or least accurate.)

"EXAMPLE: I think it is hardest to drive during

- (2) DARKNESS
- (4) DAYLIGHT
- (1) DUSK
- (3) STORMS

"As checked, the answers show that it is most difficult to drive during dusk; second comes darkness; third, storms; while daylight is listed fourth or easiest for driving.

- "1. Most 'near-misses' occur when I am
 - () Turning left
 - () Turning right
 - () Changing lanes
 - () Crossing intersections
- "2. I find it hardest to avoid small accidents, while
 - () Getting into parking space
 - () Backing
 - () Stopping quickly
 - () Leaving parking space"

Conclusion

IN CONCLUSION, the problem confronting the fleet supervisor is, 1. To procure drivers with the highest possible skills and abilities. 2. To constantly extract the highest possible degree of performance from those skills and abilities.

It must be remembered that driver attitude is a product of supervision. Good supervision begets good driver attitudes.

END

Please resume reading on Page 52

No. 1 Source
FOR
HEAVY-DUTY
Air-Cooled
ENGINES

The advertisement features a large black and white photograph of a massive industrial complex with numerous buildings and structures, identified as the Wisconsin Motor Corporation plant. To the left of the photo is a large sign with the company's slogan. Below the sign are four separate engine units, each labeled with its model and power rating:

- Single-cylinder 3 to 6 hp.
- Single-cylinder 6 to 9 hp.
- 2-cylinder 7 to 13 hp.
- V-type 4-cylinder 15 to 30 hp.

As a potential or present user of 4-cycle internal combustion engines as power components on original equipment or as independent auxiliary power units, you will readily recognize the advantages of dealing with the outstanding leader in the heavy-duty air-cooled engine field.

Here, at the Wisconsin Motor Corporation plant there is nothing to divert attention from the highly specialized industrial operation of designing and building air-cooled engines. The entire resources and facilities of this organization are devoted to this single-minded project.

Because constant engineering effort and manufacturing skill are devoted wholly to the improvement and large volume production of WISCONSIN HEAVY-DUTY AIR-COOLED ENGINES, in a complete, general utility power range, you have the best assurance of dependable power units, ideally suited to your needs. Of equal importance, you have here, the most dependable source of supply both for engines and original factory parts.

Supporting this endeavor are key distributors of impressive recognition in the territories they serve, and a staff of competent Wisconsin Motor Corporation field men, in close liaison between factory and customer. Your interests are our primary interest.



WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines

MILWAUKEE 46, WISCONSIN

Truckers and Unions Team Up

Continued from Page 62

well worth the small cost.

Martin first had a physical examination, required by ICC rules and the California Public Utilities Commission. Then he sat down to two safety tests, one for driving, the other for visual speed and accuracy. For the long-haul drivers the second half of the exam is probably more important. Here Martin will be subjected to re-

flex tests, to relative distance exams, to gadgets designed to tell how fast he recovers his vision at night after passing glaring headlights. If he has night blindness—the inability to see clearly in dim light—he'll know after Center tests, and be changed to a daylight job.

The actual tests, all on standard psycho-physical equipment, include

depth perception, peripheral vision, night blindness, the Keystone Telescopical, steadiness, and reactance time.

Good Results Reported

COOPERATING fleets like Garrett Freightlines, P. I. E., Lang Transportation—to name only a few of the 400 companies in southern California which send their drivers to the Safety Center—have found accidents reduced as a result of this coordinated program.

The Petrol Corp., which started sending its drivers through the Center in April, 1948, reported that from that date until November, 1948, the company had but six accidents compared with 32 for a similar period during 1947.

Just how accurate are the Center's testing devices? And what do they show? The gadgets aren't final—in the sense of a stiff physical. But accumulating records—backed by operating data—show that the tests have definitely established an average. Against this average each driver must submit himself. He may be high in one field, low in another. It's up to him to correct his weaknesses—if he can—or, such as in the cases of night blindness, to switch to day driving.

Drivers have experienced as much as 60 per cent reduction in accident frequency—both chargeable and non-chargeable—following Safety Center examination. This business of chargeability of accidents is another point on which the Center takes a neutral stand. Chargeability does not alter the fact and, at best, is only a technicality—and a strictly legal one at that.

His test over, Joe Martin left the Safety Center, boarded his 22-ton rig and hit the road again. Statistics were with him. Statistically, some 400 trucking companies have discovered in southern California that men like Martin have a better chance to pull the rigs through when they know their deficiencies and compensate for them.

END

Please Resume Reading Page 63

NON SQUEAL
With

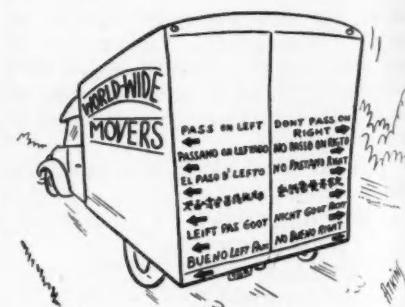
MOLD-BLOK
BRAKE LINING

Specify
MOLD-BLOK

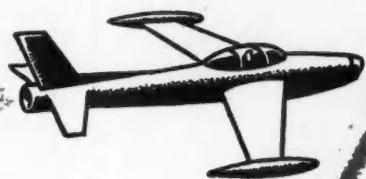
Quiet, efficient stops are yours with Mold-Blok because it is built to give top performance on the toughest runs.

Specify Mold-Blok Brake Lining on new outfits or when re-lining older ones. It's a product you can depend upon.

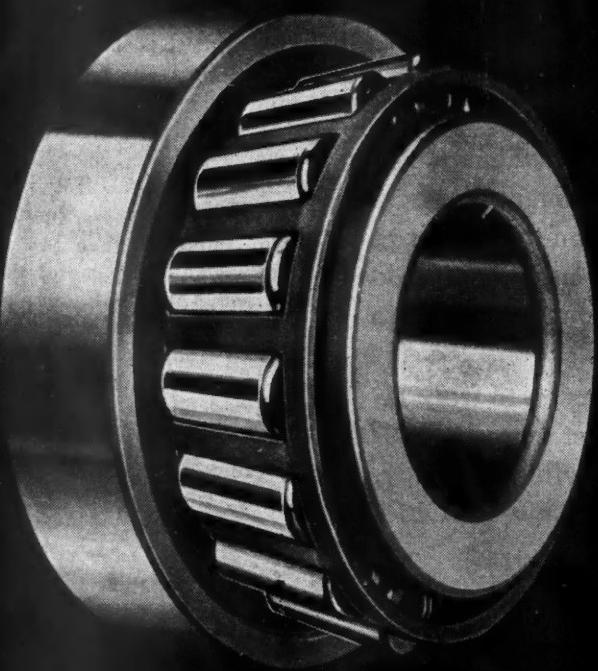
MOLDED MATERIALS DIVISION
OF
CARLISLE CORPORATION
RIDGWAY, PA.



*From jeeps
to jets*



*the
BOWER
line is complete!*



The complete Bower Roller Bearing line for automotive service is supplied to your local jobber by Federal-Mogul.

There is a Bower tapered roller bearing for all automotive applications—car, truck, bus, tractor or trailer. In addition, you can get Bower straight roller bearings for all popular applications.

Depend on famous Bower quality . . . famous Federal-Mogul Service!

FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN

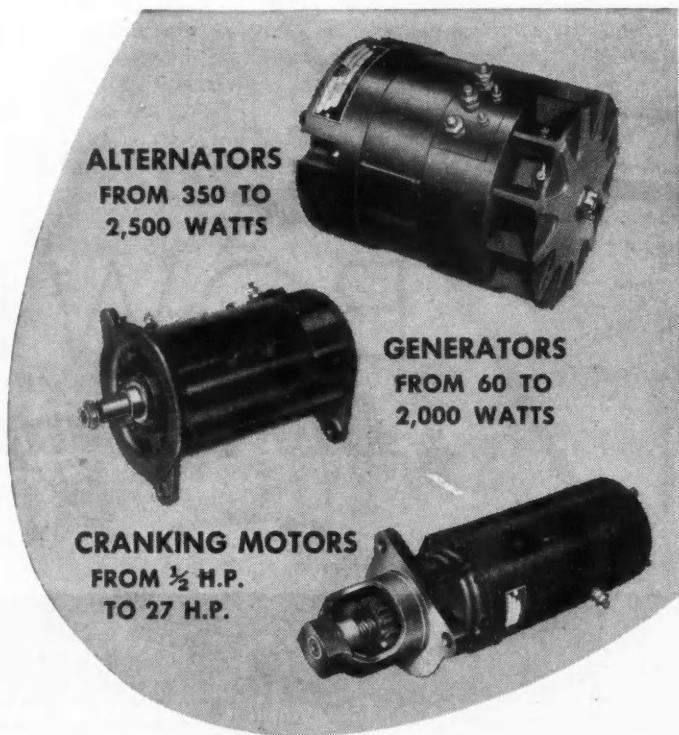
Manufactured by Bower . . .

Available for service through FEDERAL-MOGUL

Ask your Federal-Mogul jobber!



FOR SPECIAL HEAVY-DUTY ELECTRICAL EQUIPMENT



Turn to Leece-Neville when in need of special, heavy-duty electrical equipment. For over 40 years, Leece-Neville has been the leader in designing and manufacturing generators, cranking motors, voltage regulators and switches to lick the toughest problems.

Why not let our Engineers go to work on your problem? Just write Dept. 10,
The Leece-Neville Company,
Cleveland 14, Ohio.



Pioneer and STILL Quality Leader...

Leece-Neville

Management & Unions

Continued from Page 63

and the judges vote their individual interpretation of responsibility by written ballot, based on whether or not the driver practised "defensive driving." Frequently, there is oral discussion of the case before the votes are cast.

The verdict, which is the average of all voting members, may range all the way from a complete clearance of any blame to 100 per cent responsibility. Usually it is somewhere in between. The court takes no punitive action against the driver. That is left to his employer in accordance with company policy and union agreements.

In session, the court meets at union headquarters where space is adequate and the atmosphere conducive to good cooperation from the driver. Incidental costs of the court are borne jointly by the union and PMTA on a 50-50 basis.

Results Beneficial

WHEN asked for specific figures that could measure the results so far obtained from the court procedures, neither PMTA nor Local headquarters could provide the answer. It is a matter of record, however, that accidents among member firms is definitely down, and that relatively few drivers are "repeaters" at the court.

More important than any actual fixing of blame is the moral effect upon the driver. Many of them have said they prefer the ordeal of an accident and the perhaps heated words of their own boss, to the ordeal of facing the judges around the court's table. Most of them remember their embarrassment

(TURN TO PAGE 126, PLEASE)

Propane-Butane Transporter



New International L-180 truck, equipped with 1000-gal. pressure tank for hauling propane or butane fuels to oil well drilling and pumping units, is put into service by Universal Butane Company, Centralia, Ill. E. C. Felt, left, president, and Ed Erbes, maintenance foreman, inspect the vehicle. Universal Butane Co. operates a fleet of 24 trucks in southern Illinois, Kentucky, and southern Indiana oil fields.

Tachograph

THE TIME-TESTED RECORDING SPEEDOMETER*

"played an important part in our successful Growth"



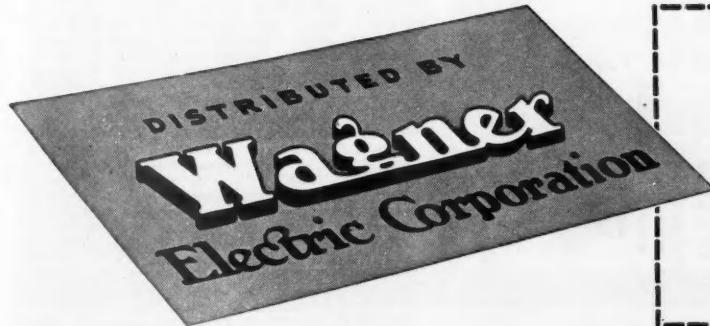
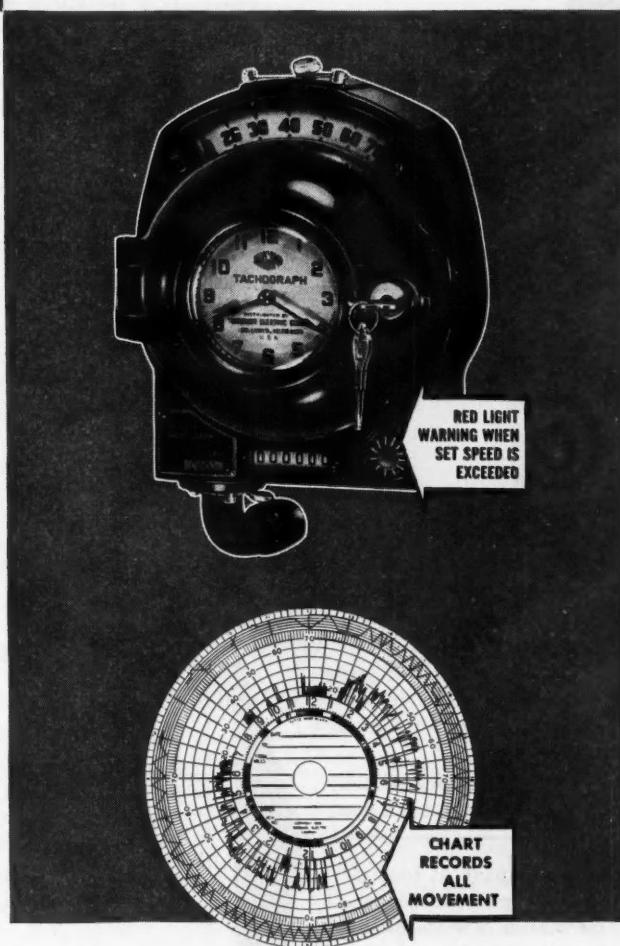
The Pacific Intermountain Express, whose vehicles travel many millions of miles a year, has equipped all power units in over-the-road service with Tachographs. An operation of this magnitude requires efficient methods of checking on the movement of each unit and this company has found Tachographs to be the most reliable method of determining the action of each vehicle.

In addition to giving a daily check on all movements of their rolling stock, Tachographs have helped establish real confidence between employer and driver. When operations are on a basis of mutual understanding, payloads move smoothly and a profitable lasting relationship results.

Like P. I. E., you, too, can enjoy the many advantages and economies afforded by Tachographs. Mail the coupon for full information.

CHART TELLS ALL:

- WHEN ENGINE STARTED
- HOW LONG ENGINE IDLED
- WHEN VEHICLE WAS IN MOTION
- HOW FAST IT TRAVELED
- WHEN VEHICLE STOPPED
- DISTANCE TRAVELED BETWEEN STOPS



Wagner Electric Corporation

6476 PLYMOUTH AVE., ST. LOUIS 14, MO.

Please send a copy of Bulletin SU-3B.

Name and Position _____

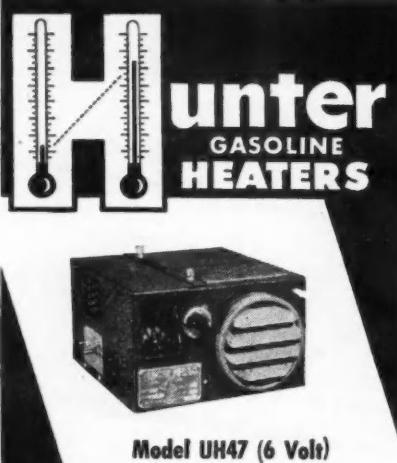
Company _____

Address _____

City _____ State _____

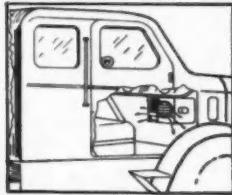
We operate _____ Vehicles
(NUMBER)

551-1



**Safe, Sure,
Automatic Heat,
Independent of
Vehicle Engine**

PAYS FOR ITSELF—BY SAVING
FUEL AND ENGINE WEAR



• Here's heat as you want it
—dependable, economical,
thermostatically controlled
—from a compact, efficient,
easily installed gasoline
heater specially designed to
meet the needs of the truck-
ing industry.

The Hunter Heater burns any
type gasoline, averages less

than one pint of fuel per
hour. It provides constant
circulation of warm air at any
temperature desired, is fool
proof and trouble free in
operation.

Write for complete information,
prices on all models.
(Some distributor, dealer terri-
tories still open.)

TRANSPORT HEATING & REFRIGERATION
• CAB HEATERS • TRAILER HEATERS
• CARGO HEATERS • CARGO COOLERS

Hunter
MANUFACTURING CO.
1550 E. 17th St., Cleveland 14, Ohio

Management & Unions

Continued from Page 124

at being there and the kindly, well-chosen words of advice which the impartial court deals out. None want to come back. To date, approximately 456 drivers have appeared before the court, or an average of 6 per week.

Contest Spurs Safety Campaign

TO KEEP the movement active, and to encourage both member operators and drivers in full cooperation, numerous selling aids have been built up. Last year a \$1,500 prize contest was held among all drivers for the best definition of "Defensive Driving"—major theme of the Philadelphia campaign. Among the hundreds of answers were many carefully considered phrases, indicating real thought on the part of drivers.

The winner had this to say: "Defensive Driving is practicing courtesy and good judgment on the highway; taking nothing for granted and being able to recognize an accident in the making and avoiding it."

Each driver, also, has been asked to sign a safe driving pledge committing himself to the principles of defensive driving. In recognition of this, he is provided with a pocket certificate, signed by union and association executives, indicating that he has signed the pledge.

Furthermore, large placards have been prepared, for mounting on the rear of all trucks covered by the Philadelphia Accident Prevention Program, which is the official title for the activities.

Together with Los Angeles' Driver Safety Center, described in an accompanying article, the Philadelphia Program marks a new and tremendously important step in the direction of better cooperation with union and management and toward the ultimate goal of safer operations on the highway.

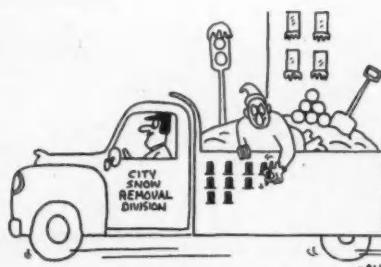
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DAYTON WHEELS

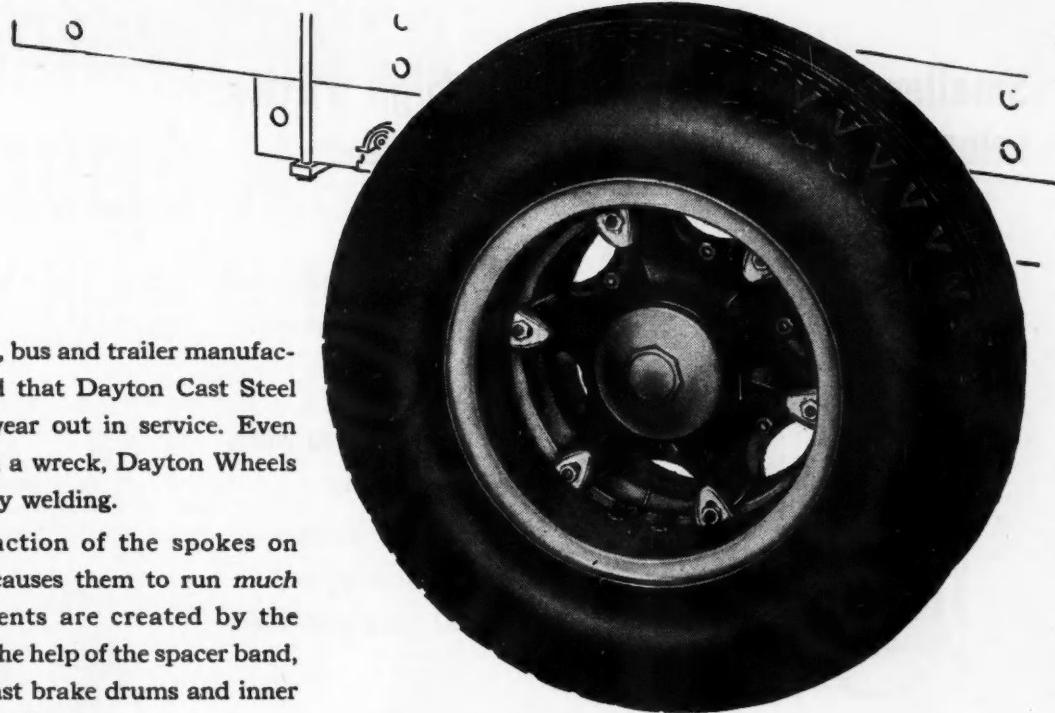
are distributed through
National Wheel & Rim
Association Members

AKRON, Ohio.....Motor Rim Manufacturers Co.
ALBANY, N. Y.....Wheels Incorporated
ALBUQUERQUE, N. M.....Wheels & Brakes, Inc.
ATLANTA, Ga.....Harris Automotive Service, Inc.
BALTIMORE, Md.....R. W. Norris & Sons
BIRMINGHAM, Ala.....Cruse-Crawford Wheel & Rim Co.
BOSTON, Mass.....Harvey Sales & Service Company
BOSTON, Mass.....New England Wheel & Rim Company
BUFFALO, N. Y.....Frey, The Wheelman, Inc.
CALGARY, Alta., Canada.....Fisk Tire Service, Ltd.
CHARLOTTE, N. C., Carolina Rim & Wheel Company
CHICAGO, Ill.....Stone Wheel, Incorporated
CINCINNATI, Ohio.....Rim & Wheel Service
CLEVELAND, Ohio.....Motor Rim Manufacturers Co.
COLUMBUS, Ohio.....Hayes Wheel & Spring Service
CUMBERLAND, Md.....R. W. Norris & Sons
DALLAS, Texas.....Southwest Wheel, Incorporated
DAVENPORT, Iowa.....Stone Wheel, Incorporated
DAYTON, Ohio.....Rim & Wheel Service
DEMOINES, Iowa.....Des Moines Wheel & Rim Co.
DENVER, Colo.....Quinn & McGill Motor Supply
DETROIT, Mich.....H. & H. Wheel Service, Inc.
DETROIT, Mich.....Rim & Wheel Service Company
DOVER, Del.....R. W. Norris & Sons
EDMONTON, Can.....Alberta Wheel Distributors, Ltd.
FARGO, N. D.....Pioneer Rim & Wheel Company
FARGO, N. D.....Wheel Service Company
GRAND RAPIDS, Mich.....Rim & Wheel Service Co.
HAGERSTOWN, Md.....R. W. Norris & Sons
HARRISBURG, Pa.....Standard Wheel & Rim Co.
HARRISONBURG, Va.....Harrisonburg Wheel & Parts, Inc.
HARTFORD, Conn.....Connecticut Wheel & Rim Co.
HOUSTON, Texas.....Southwest Wheel & Equipment Co.
INDIANAPOLIS, Ind.....Indiana Wheel & Rim Co.
JACKSONVILLE, Fla.....Southeast Wheel & Rim Co.
KANSAS CITY, Mo.....Borbein, Young & Company
KNOXVILLE, Tenn.....Harris Automotive Service, Inc.
LOS ANGELES, Motor Rim & Wheel Service of Calif.
LOUISVILLE, Ky.....Auto Wheel & Rim Service
MEMPHIS, Tenn.....Beller Wheel, Brake & Supply Co.
MILWAUKEE, Wisc.....Stone Manufacturing Company
MINNEAPOLIS, Minn.....Pioneer Rim & Wheel Co.
MINNEAPOLIS, Minn.....Wheel Service Company
MONTREAL, Can.....General Automobile Equip., Ltd.
NASHVILLE, Tenn.....Beller Wheel, Brake & Supply Co.
NEWARK, N. J.....Wheels Incorporated
NEW HAVEN, Conn.....Connecticut Wheel & Rim Co.
NEW ORLEANS, La.....Southern Wheel & Rim Service
NEW YORK, N. Y.....Wheels Incorporated
OKLAHOMA CITY, Okla.....Southwest Wheel, Inc.
OMAHA, Nebr.....Morgan Wheel & Equipment Co.
OMAHA, Nebr.....Omaha Rim & Wheel Company
PEORIA, Ill.....Peoria Wheel & Rim Company
PHILADELPHIA, Pa.....Kay Wheel Sales Company
PITTSBURGH, Pa.....Wheel & Rim Sales Company
PORTLAND, Oregon.....Auto Wheel Service
PORTLAND, Oregon.....Six Robblee, Incorporated
RALEIGH, N. C.....Carolina Rim & Wheel Company
RICHMOND, Va.....Dixie Wheel & Rim Company
ROCHESTER, N. Y.....Frey, The Wheelman, Inc.
ST. LOUIS, Mo.....Borbein, Young & Company
SALISBURY, Md.....R. W. Norris & Sons
SALT LAKE CITY, Utah.....Henderson Wheel, Rim Serv.
SAN ANTONIO, Texas.....Southwest Wheel & Equip. Co.
SAN FRANCISCO, Motor Rim & Wheel Serv. of Calif.
SEATTLE, Wash.....Six Robblee, Incorporated
SOUTH BEND, Ind., Wire & Disc Wheel Sales Co.
SOUTH HILLS, Va., South Hills Wheel & Parts, Inc.
SPOKANE, Wash.....Bearng & Rim Supply Company
SPRINGFIELD, Ill., Illinois Wheel & Brake Company
SPRINGFIELD, Mo.....Borbein, Young & Company
SYRACUSE, N. Y.....Colburn Wheel & Rim Company
TACOMA, Wash.....Six Robblee, Incorporated
TOLEDO, Ohio.....Wheel & Rim Sales Company
TORONTO, Canada.....Harpham Brothers, Ltd.
TORONTO, Canada, Wheel & Rim Co. of Canada, Ltd.
VANCOUVER, B. C., Canada.....Wheel & Equip., Ltd.
WICHITA, Kansas.....Borbein, Young & Company
WINCHESTER, Va.....R. W. Norris & Sons
WINNIPEG, Can., Automobile Supply Company, Ltd.
WINNIPEG, Canada, Fort Garry Tire & Service, Ltd.
WINSTON-SALEM, N. C., United Automotive Service



DAYTON WHEELS

*cost less for service than
any other wheel!*



The leading truck, bus and trailer manufacturers have found that Dayton Cast Steel Wheels do not wear out in service. Even when damaged in a wreck, Dayton Wheels can be repaired by welding.

The fanning action of the spokes on Dayton Wheels causes them to run *much cooler*. Air currents are created by the spokes and, with the help of the spacer band, are directed against brake drums and inner walls of the inside tires.

Increased pressure exerted by each of the rim nuts on the clamp bevel against the demountable rim prevents rim slippage and consequent uneven tire wear.

Dayton Wheels help to lower operating costs, too, and most smart operators have taken advantage of these savings for many years. Specify Dayton Wheels for new equipment and replacements.

THE DAYTON STEEL FOUNDRY COMPANY, DAYTON 1, OHIO

Dayton Wheels

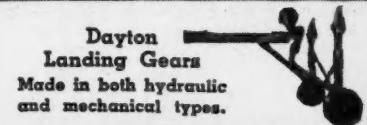
SPOKE TYPE
CAST STEEL



Dayton Brake Drums
Drums assembled to the
wheels at the factory give
more perfect concentricity.



Dayton 5th Wheels
Standard equipment
on many trailers.
Quick coupling.
Positive operation.



Dayton
Landing Gears
Made in both hydraulic
and mechanical types.

LP Gas Principles of Operation

Continued from Page 73

atomizer which reduces the fuel flow under part throttle and provides a leaner air-fuel mixture.

An idle system is provided from the low pressure regulator, supplementing the fuel obtained through the main gas orifice at idle. This system takes gas from the regulator and injects the fuel at a point in the carburetor just above

the throttle disk. This can be compared to the idle system in the conventional carburetor. The source of fuel is independent from the main gas supply and is controlled by two adjustments. Fig. 4. This simple device is relatively free from such maladjustments and clogging of lines as characterizes the gasoline carburetor. With

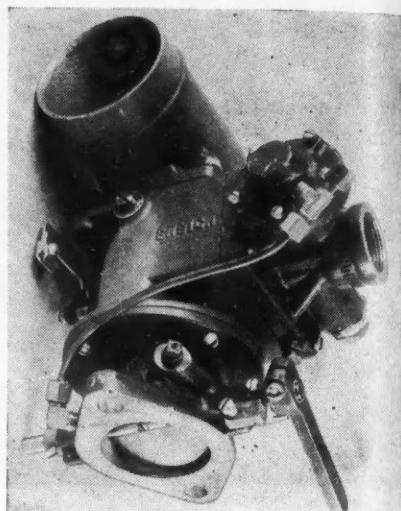


Fig. 4. The Ensign downdraft type carburetor showing throttle lever, balance line and the easy starting device

Smaller 'Packages'... Same High Purity

LINDE Oxygen and PREST-O-LITE Acetylene

Trade-Mark

Trade-Mark



now in HANDIER cylinders for

- Garages
- Small manufacturing plants
- Sheet metal works
- Electrical repair shops
- Heating, plumbing, and air-conditioning contractors

	Style	Capacity cu. ft.	Height in.	Diam. in.	Weight	
					Full lb.	Empty lb.
Oxygen	Q*	80	35	7 1/8	67	60
Acetylene	WQ	60	24 3/4	7 3/4	55	51

*In some areas, Style XL, 70 cu. ft.

ORDER FROM YOUR

Linde
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DISTRIBUTOR

"Linde" and "Prest-O-Lite" are trade-marks of a Unit of Union Carbide and Carbon Corporation.

Everyone who works with metals should have an oxy-acetylene welding and cutting outfit. A jobber near you can supply your needs promptly. Write us for his name and address. The Linde Air Products Company, 30 E. 42nd St., New York 17, N. Y. In Canada: Dominion Oxygen Company, Limited, Toronto.

adjustment of the idle system and the power jet to the proper fuel proportions, little further attention is necessary.

It should be noted that a combination system for both LP gas and gasoline is available in several designs, Fig. 5. This dual purposes unit consists of

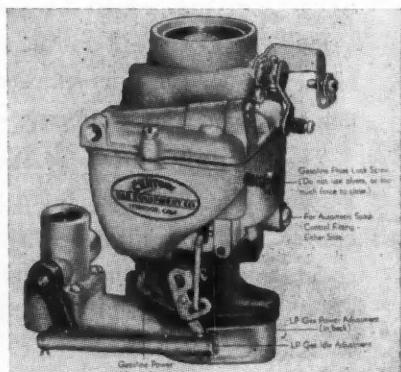


Fig. 5. The Century combination carburetor for use with liquid petroleum gas or gasoline. Note adjustment points

a straight propane carburetor with the addition of a gasoline float bowl and jets using a common venturi and throttle tubes. Provision is made for shutting off either fuel when switching to the other.

The Fuel Tank

DETAILS of LP fuel tank construction were covered in a previous article. Suffice it to say here that the special tank must be constructed of heavy $\frac{1}{4}$ -in. steel with welded ends, and must withstand pressures of 250 per sq in. The gas is released to the

(TURN TO PAGE 130, PLEASE)

compare...

and you'll sell yourself!

only HEIN-WERNER
HYDRAULIC JACKS
have all these features:

- ★ Heinite Piston — the heart of the jack . . . Proven by actual tests to withstand 10 times the wear of conventional cups or packings.
- ★ Reinforced at points of greatest strain Malleable iron handle socket, top nut and base.
- ★ Center-balanced handle socket makes it easy to position jack.
- ★ Pressure by-pass prevents over-travel of ram.
- ★ Jack cannot lower accidentally as handle must be removed from pump to open release valve.
- ★ Every model factory tested at 1½ times rated capacity.

Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity — Bumper-Lift Jacks for passenger cars, Swift-Lift and Service Jacks for shop use, and Hein-Werner "Push and Pull" Hydraulic Jacks for body, fender and frame work.

Ask your jobber or write us for details



HEIN-WERNER CORPORATION • WAUKESHA, WIS.

COMMERCIAL CAR JOURNAL, January, 1951

LP Gas . . .

Continued from Page 128

engine through a regulator valve (Fig. 6) which maintains a constant pressure to the engine. A filler valve is a spring loaded device which opens to a special adapter on the filler hose and automatically closes when pressure from the transfer pump is released. A pressure relief is also incorporated into the tank to assure against tank rupture in

case the tank pressure becomes excessive when subjected to heat. This valve may be built into the hand valve which in turn is opened to atmosphere or connected back to the main stoppage tank to facilitate filling when gravity is used in place of a transfer pump. A level gage in the form of a rotary gage projects into the tank through a small bleed orifice and bleed plug screw. The handle permits turning of the gage tube inside the tank until it strikes the liquid level, at which point a small amount of liquid fuel spews out a bleed opening to atmosphere. Thus the

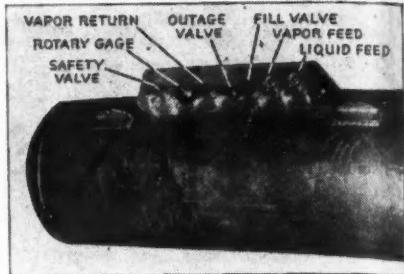


Fig. 6. A typical gas supply tank with required valves and fittings

liquid level can be noted in the tank through a graduated dial on the top of the tank.

The Filter

A FILTER is used with the LP gas system in much the same manner as the unit on the gasoline fuel lines. The filter is mounted near the primary reducing regulator (or regulating unit) to catch tank scale and other dirt. Foreign material entering the regulator can cause considerable trouble. The element is a series of felt pads mounted on a perforated center spindle through which the filtered fuel flows. In some cases a fine cloth filtering element is used on the outlet side of the vaporizer to catch solids which might enter the final pressure regulator.

END

Please Resume Reading on Page 74

Fruehauf Elects Officers

Three new vice-presidents have been elected at the Fruehauf Trailer Co., Detroit. E. S. Quarngesser of Baltimore, Md., will be in charge of the eastern sales division; W. W. Siegrist, Detroit, will be in charge of truck body division, and Harry R. Badger, also of Detroit, will be in charge of truck body division.

1951 Plymouth Announced



New styling, new riding qualities and improved roadability characterize the Plymouth for 1951. Automatic choke, electric windshield wiper, pressure radiator cap, 45-ampere generator are standard on '51 models. A new application of hydraulic flow control in the shock absorbers is said to improve ride and road stability. The 6-cylinder, 97-hp engine features a compression ratio of 7 to 1.

SIGNAL-STAT steals A.S.I. show!

Exclusive

**SHATTER RESISTANT
CLASS A
DIRECTIONAL SIGNALS
featuring
DOUBLE FACED LAMPS**

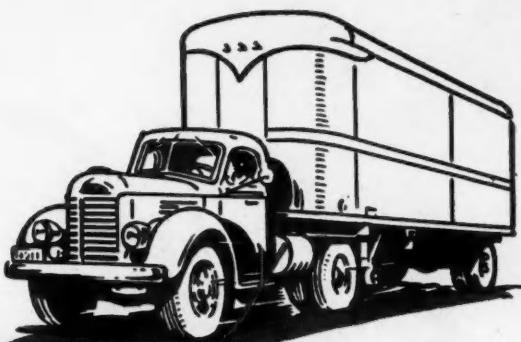
Signals that really are "Class A!" Special Lucite Lenses scientifically developed for beauty, durability and greatest efficiency. Double-faced, single-faced and flush type lamps in complete sets or individually packed. SIGNAL-STAT does it again at an unbelievable low price!

SEE THE FAMOUS SIGNAL-STAT FULL LINE

Signal-Stat CORPORATION 523-539 KENT AVE., BROOKLYN, N. Y.

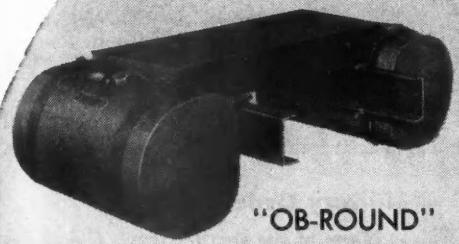
SEND FOR CATALOG

**FOR GASOLINE
OR DIESEL FUEL**



Prior

**SAFETY TANKS . . . A STOCK SIZE TO FIT EVERY NEED
OR WE BUILD TO MEET YOUR REQUIREMENTS**



"OB-ROUND"
LIGHT IN WEIGHT

75 to 100 pounds per set weight savings over
other tanks of equal capacity

By use of Prior Safety Tanks, truck operators throughout the country have found a way to shave operating and maintenance costs and thereby add to profits. These attractively engineered tanks have all modern safety tank features, including: sufficient capacity to permit the driver to fill up at home at bulk prices; fuel supply lines that are removable for cleaning; quick installation by clamps with no welding or holes to be drilled in frame; and the tanks hug the frame and stay well within rear tires.

PRIOR PRODUCTS, Inc.

Box 7608, Dallas, Texas • Box 349, Middletown, Ohio

SEPARATED TANKS RELIEVE STRAIN AND ELIMINATE SEAM CRACKING



Detroit Dispatch

Continued from Page 31

years. Prevailing opinion is that with materials under allocations, the blow will fall first on light trucks of one-ton and under as more and more material is shifted to the larger units which are considered much more essential to general freight movement. All the ingenuity in the truck industry will be directed toward building the largest number of trucks possible with the materials available. Alternate materials are going to be used to some extent which does not necessarily mean that they are inferior but perhaps are more costly or require more machining.

Transport Figures Prove It

If there is any doubt in Washington about how critically essential trucks are to the national economy, figures showing the tremendous increase in trucking activities between 1941 through 1949 should remove all doubt. At the outset of World War II there were 5.1 million trucks traveling 55 billion miles a year and carrying 5.6 billion tons of freight. By 1949 this had increased to 8.3 million trucks which traveled 80 billion miles last year and hauled 8.3 billion tons of freight. Figures show that in 1949, motor trucks hauled slightly more than 75 per cent of the total tonnage of freight handled by all types of carrier.

Military Orders Climb

Many of the smaller truck companies have been granted military contracts since the outbreak of the Korean War. Largest military orders at present are at Reo and Studebaker for 2½-ton trucks. However, several other smaller

(TURN TO PAGE 134, PLEASE)



sleep's unaffected... his trucks are protected

Worry! Fret! Loss of sleep thinking how fire on the road or in the garage can cause loss of equipment, loss of cargo, upset schedules and irate customers . . . all are anxieties of the past when your trucks and garage are fully protected with modern, approved C-O-TWO Fire Protection Equipment.

For example, with a C-O-TWO Automatic Fire Protection System in a trailer, you have a 24 hour a day automatic fire watchman . . . whether under way or parked. Heat detectors on the ceiling quickly actuate the system . . . then clean, dry, non-damaging, non-conducting carbon dioxide gas is flooded into every nook and corner, extinguishing the fire in seconds before it spreads and causes serious damage. After use, the carbon dioxide disappears without a trace

. . . no water damage, no odors.

C-O-TWO Portable Fire Extinguishers . . . either carbon dioxide type or dry chemical type . . . render fast, positive action for extinguishing fire during the incipient stage. C-O-TWO Portable Fire Extinguishers are designed to take abuse . . . rugged construction, no extra gadgets protruding or complicated operating parts . . . built to rigid specifications to assure you of efficient fire protection.

Remember fire doesn't wait . . . let an expert C-O-TWO Fire Protection Engineer help you in planning complete and up-to-date fire detecting and extinguishing facilities for your fleet and other property now. Write us today . . . tell us about your particular fire hazards, our experience is at your disposal . . . no obligation of course.



C-O-TWO FIRE EQUIPMENT COMPANY NEWARK 1 • NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada
Affiliated with Pyrene Manufacturing Company

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
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"I've noticed the mole on her knee before, but I never suspected she had one there."



"160,000 miles of 20 ton payload without pulling head or pan!"

Shop foreman of a Pennsylvania trucking firm tells how Fram saves time, motors, money.

"... And for my money that's a record and Fram is largely responsible for it! I've got another truck with 130,000 miles on it and one with 80,000 . . . both Fram-equipped . . . both untouched. I get thousands of miles of rugged pay-

load service out of Fram cartridges. I want to urge all other fleet men to use Fram as faithfully as I do. It can't be beat!"

FRAM Filters give your engines Profit Protection!

Take a tip from fleet owners who know . . . Fram adds thousands of miles to engine life . . . cuts main-

tenance costs 'way down! Fram offers you filters for every fleet job . . . to filter oil, air, fuel or water on cars, trucks, buses! And there's a Fram Cartridge made to fit almost every oil filter! Take advantage of Fram's extra protection . . . equip your fleet with Fram. Do it now!

FRAM
OIL • AIR • FUEL • WATER
FILTERS



Provides instant visual check on condition of oil, cartridge and engine. Saves money . . . indicates cartridge changes only when needed. Saves paper work. Lowers maintenance costs. Increases engine life. Test it free!

FREE Lubri-Graf! Send Today!

FRAM CORPORATION, Dept. C1, Providence 16, R. I.

Please rush me my free Fram Lubri-Graf.

Name.

Company.

Address.

City. State.

No. of vehicles in fleet.

We regularly purchase through.

Detroit Dispatch

Continued from Page 132

companies have been given orders totaling more than \$60 million. They include: Diamond T, Biederman, Federal, Autocar, Mack and FWD. Willys also has a very heavy backlog of military orders for Jeeps, engines and replacement parts.

Over Age Truck Ratio High

Despite high production of trucks since the end of the war, particularly in the last three years, the percentage of overage trucks still is more than three times as high as it was in 1941. In that year one out of six trucks was 10 years old or older while today one out of every three is of 1940 vintage or older. While the number of trucks in use admittedly is much higher—8.3 million—transportation needs have grown so tremendously that the ratio of available truck mileage to truck requirements still is below the prewar level.

111,000 GMC's This Year

GMC Truck & Coach Div. of GM this year will hang up the highest peacetime production record in its history. The company reached the 100,000 mark late in November the first time it had ever built that number of non-military units in any year. Final figures are not yet available for the full year, but it should be in the neighborhood of 111,000 units.

May Build Reos in England

Reo is contemplating putting its plant in Staines, England, back into truck assembly to produce units for sale in England and sterling area countries. Reo has owned the plant since 1922 through Reo Motors, Ltd., a subsidiary of Reo Motors of Canada, Ltd. Truck assembly was carried on there until 1939 when it was abandoned following a government edict barring imports of trucks in finished or knocked down form. It has been used since the war as a parts depot. Present plans call for supplying truck engines from the United States operation with the rest of the assembly to be made up from components made in Britain.

END

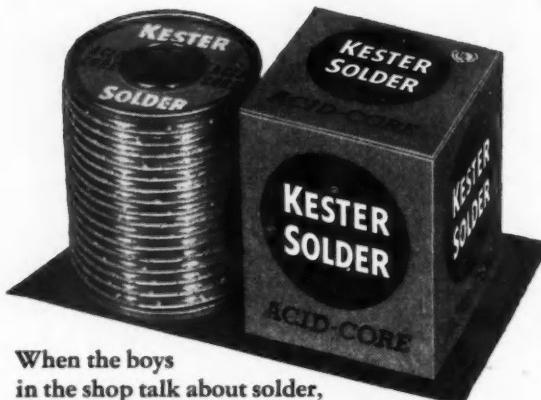
Please resume reading on Page 37

BACK STAGE WITH TESSIE

Tedious Tessie, our Safety Department Statistical Clerk, says that if it weren't for fatal motor truck accidents, the world would be overrun with darn fool cowboys.

COMMERCIAL CAR JOURNAL, January, 1951

Kester Solder



When the boys
in the shop talk about solder,
they talk about Kester Acid-Core Solder;
the old reliable product now in a new package.

Easier to Use

Mechanics know that using Kester makes any soldering job easier. Kester contains more grade A newly mined Tin and only virgin lead, too. The fluxes are chemically and scientifically correct.

Faster

Kester is faster to use. Mechanics prefer it and are more satisfied when using it. The work is speeded up and output is increased.

Kester Solder Company

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KESTER
SOLDER



The Mechanics Standard since 1899

FILTERING ALL CARS!

MORaine
DUREX
GASOLINE FILTERS



**MORaine
PRODUCTS**

DIVISION OF GENERAL MOTORS
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Moraine Durex Gasoline Filters are distributed nationally by United Motors Service. Order a supply from your local UMS distributor.

KEEP ENGINES GOING ... CUSTOMERS COMING!

ALL cars, buses, trucks and tractors can be easily and quickly fitted with a Moraine DUREX gasoline filter. This is the filter (glass bowl or all-metal type) which uses a bonded metal unit—small metal spheres bonded together to form a filter unit of controlled porosity which doesn't chip, flake, break or bend during normal usage and handling.

Sell a Moraine DUREX gasoline filter and you are selling clean carburetion, insuring smoother acceleration and more dependable motor performance. This is the sale that keeps on selling, for a Moraine DUREX filter keeps engines going and customers coming!

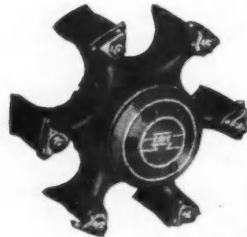
DISPLAY PACKAGES—Attractive combination stock containers and counter displays are available for both the Glass Bowl and All-Metal type filters. Your choice of fittings are furnished free with each Display Package ordered.

THE MEN WHO

Roll 'em through the night . . .



**STAKE THEIR LIVES AND CARGO SAFETY ON
ERIE WHEELS!**



The men who roll snarling behemoths over hill and dale, night and day, to supply our marts of trade, are confident in the safety of Erie Wheels . . .

Wheels that marshall great strength with malleable iron resiliency . . . Wheels whose turbine-like spokes cool the brake drums and dissipate heat the faster they roll . . . Wheels a sleeping country-side never sees, but depends upon, as they roll through the night.

You Can Specify . . .

Erie Wheels

ERIE MALLEABLE IRON COMPANY
ERIE • PA.



Washington Runaround

Continued from Page 37

February. The outlook appears to be for a drop in unit production of large heavy-duty truck and bus tires with producers striving to hold up quality. At present there are no specifications for larger tires, but it would seem certain that they are on the way. Minimum synthetic use specifications in effect for tires 7.50 and down are largely academic, since producers have been using more synthetic than required.

No Transport Controls

Actual controls on highway transportation are not in sight. In fact, there is much skepticism about the wisdom of instituting such measures as the World War II cutback in local deliveries. While action of this sort does conserve fuel and tires, it does not make available any additional cargo space—which appears to be the major mobilization need in order to assure quick movement of military goods.

Pressure for Uniform Loads

Heavier loading of highway transport vehicles in order to utilize all transportation facilities to the fullest extent possible during the present emergency is being strongly-pushed by Defense Transportation Administrator James K. Knudson. The DTA chief has served notice on state highway officials and utilities commissioners that if the states do not lower artificial and hampering barriers to highway traffic in this emergency period, "their failure" to do so will be an invitation to elements of the Federal Government to take the lead in bringing about uniform standards." It is likely that the states will cooperate, as they did with the Office of Defense Transportation during World War II, but Mr. Knudson maintains that permanent solution of the problem requires a uniform regulatory code and full reciprocity between the states.

On another front of the same problem, Defense Secretary Marshall has asked the Governors of the 48 states to cooperate with the military in authorizing overweight truck movements when urgent military needs require such action. It is made clear, however, that carriers will not be authorized to represent the military in seeking such permits, but that such requests will come from the military services.

On still another front, the Bureau of Internal Revenue has revoked a prior ruling which held that income tax deductions may be taken for fines paid by truck operators for violating state laws prescribing maximum weights.

(TURN TO PAGE 140, PLEASE)

GATES TRUCK BELTS

"Give 80% Longer Wear... Save Costly Road Delays"

Any one of the users of Gates Truck Belts will tell you of similar savings

We list just a few users on the preceding page—representing a wide geographical selection so that wherever you may be located, there will surely be one big operator near you whom you know and can ask frankly about the *longer* service and *better* service delivered by the specially engineered GATES TRUCK BELT.

Every one of them will tell you that GATES TRUCK BELTS save them from 50% to 80% in actual V-belt costs alone. And they will tell you of another saving that is far more important than this very substantial reduction in V-belt costs.

Saving Road Failures that cause Costly Delays is Even MORE IMPORTANT

Every user of GATES TRUCK BELTS men-

tions particularly the great reduction in road delays on units that are equipped with these belts—and there is little wonder that they emphasize this saving.

Delays on the road naturally cause disappointment to your customers who are often waiting anxiously for delivery of important shipments. *Even worse than that*, road delays cut down the precious net operating time of your units—and net operating time is, after all, the *one* thing that pays you a profit.

If you will consult with any of the operators whose names appear on the preceding page, we know you will find their savings from using Gates TRUCK and BUS Belts are so substantial that you will certainly want to have the advantage of these savings for yourself.



The Gates Rubber Company
Denver, U. S. A.

World's Largest Makers
of V-Belts

Gates Belt Jobbers in
Every Distributing
Center Can Supply
You Promptly.



Washington Runaround

Continued from Page 136

loads, or size of trucks. Effective Dec. 1, 1950, fines are not deductible for tax purposes as they had been since 1942.

Centralized Transport Office

Transportation activities in the Dept. of Commerce have been centralized under Major General Philip B. Fleming, Under Secretary for Transportation, in order to better meet mobiliza-

tion needs. Newly created are an Office of Transportation, to be headed by a Deputy Under Secretary of Transportation. Transferred to this new office is the Transportation and Communication Division of the Office of Industry and Commerce. A Transportation Council has also been set up under General Fleming, composed of the Chairman of the Civil Aeronautics Board, The Maritime Administrator, Commissioner of Public Roads, Civil Aeronautics Administrator, and the Chairman of the Advisory Board of the Inland Waterways Corporation.

Supervising all of these agencies within the Department, General Fleming's office will be responsible for compiling and analyzing estimates of traffic requirements to be imposed upon existing transportation facilities by the needs of mobilization; determining the adequacy of such facilities to handle the increased load; developing proposals designed to secure the best possible use of existing transportation facilities, and stimulate the provision of needed facilities.

The new organization is already at work on requirements for transportation items during the current year. Such work will be the basis for allocation programs, beyond that already in effect for freight cars, should they become necessary.

New Transport Personnel

Lee A. Hyde of Memphis, Tenn., has been appointed a consultant on domestic street and highway transportation to the Defense Transportation Administration. Mr. Hyde is president and general manager of Highway Express, Inc., and also president of Dunbar Transfer and Storage Co. He is a member of the Board of Directors of ATA.

Benjamin R. Miller, Director of Industrial Relations of ATA, has been appointed consultant on domestic transport manpower to DTA. He has been on loan to DTA since last fall. During this period he assisted in developing a Manpower Division and served as Manpower Director for DTA.

Max Harris, executive vice-president of the Indianapolis Forwarding Co., Chicago, has been appointed consultant on motor carrier problems for the Military Traffic Service.

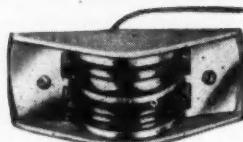
Robert L. Glenn is temporarily heading up a Transportation Equipment Division at the National Production Authority. He will review and recommend materials and equipment needs
(TURN TO PAGE 142, PLEASE)

DO-RAY

DO-RAY'S extensive line (one of the largest in the market) is your best opportunity to develop sales and profit in Safety Lighting & Reflecting Equipment.



No. 70—Giant Lite. Dia., 7-5/16". Body bracket allows four mounting positions. No. 71—Flush mounting type.



No. 415—Armored Clearance Lamp with heavy metal guard; center bar for additional strength. Silver-like lustre finish.



No. 69—Giant Twin Lite for snow plows, police, fire, state patrol cars and trucks, emergency and 'wrecker' vehicles.



No. 44-S—4" Stop Lamp with universal hinge bracket for easy mounting. Body & door chrome.



No. 1352T—Stop and Tail Lamp. Two-bolt mounting for Chevrolet trucks 1942-1950. All black enamel finish.



No. 167—Nu-Ray All-Glass Universal Stop & Tail Lamp — meets class "B" reflex requirements in all states.



No. 419—Dome or Side Lamp with enclosed switch. For cars, trucks, and buses. 21 C.P., S.C. bulb. Full chrome.



No. 1319 Do-Ray Universal Junior Truck Mirror. Cab or hinge installation. Silver-like lustre finish. Rubber guard.

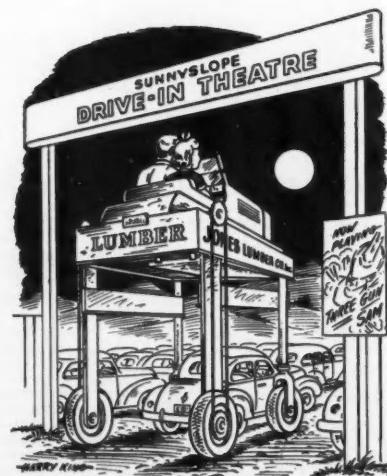
No. 1362-B
Do-Ray
Super
Sturdi-
Bilt Truck Mirror.
Silver-like lustre fin-
ish. In clear or non-
glare glass. Rubber
bumper guard.

See DO-RAY'S superior line of directional signals for cars and trucks. Also conversion kits for cars back to 1939 and some earlier models.

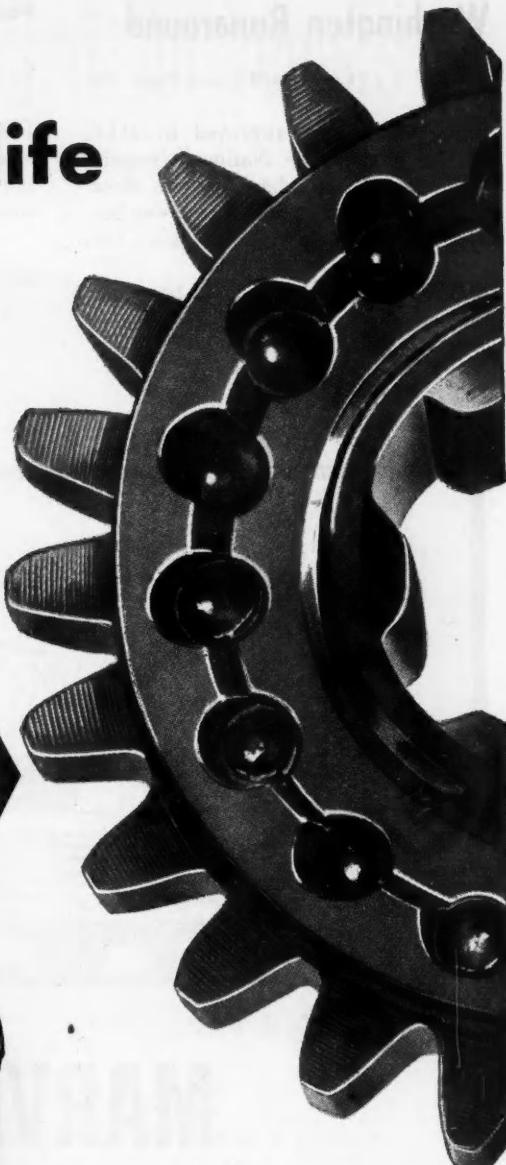
Write for new, complete DO-RAY catalog.

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For longer life



USE QUAKER STATE SUPERFINE LUBRICANTS

COMPLETE PROTECTION against wear is a tough assignment for any gear lubricant. Quaker State Stabilized Quadrolube is especially made for transmissions and rear axles (except Hypoids)*. It embodies all the unparalleled qualities of 100% pure Pennsylvania base oil. Exceptionally resistant to pressure and heat, it also resists cold, moisture, rust, corrosion and foaming.

To give your equipment longer life and keep it rolling at its best, give it complete Quaker State Lubrication service.

*For Hypoids, use Quaker State Super Quadrolube.

A COMPLETE LINE OF FINEST QUALITY LUBRICANTS

- Quaker State Super Quadrolube
- Quaker State Viscous Lubricant
- Quaker State Wheel Bearing Lubricant
- Quaker State EXPP2 Lubricant
- Quaker State Universal Joint Lubricant
- Quaker State Waterproof Lubricant
- Quaker State Quadrolube

Washington Runaround

Continued from Page 140

for transportation approved by DTA. He came from the National Security Resources Board where he was director of the Materials and Manpower Section of the Transportation Office. Also served with ICC and ODT.

Harold K. Osgood has been appointed Storage Specialist to the staff of DTA. He has been active in the warehousing and storage industry.

Forwarder Bill Okayed

Legislation (H.R. 5967) granting freight forwarders common carrier status was signed by the President on Dec. 20. Within a 450-mile limit, the measure would permit forwarders to use motorcarrier services at rates lower than those charged shippers.

More on Delivered Prices

The new Congress will make a fresh start toward legislation permitting manufacturers to pay freight bills on their

products. Sen. Edwin C. Johnson, Dem. Colo., chairman of the Senate Commerce Committee, in an official report, urges his colleagues to "clarify the right of sellers to competitive freight absorption."

President Truman in his veto of an earlier bill expressed the belief that the Federal Trade Commission would decide the legality of delivered prices, but Sen. Johnson says FTC is "unable, and is in fact unwilling" to clarify the law. He points out that for nearly three years businessmen have been "terribly confused" as to whether they can lawfully absorb freight. "Much of this confusion," he states, "is directly attributable to the FTC."

Congress will continue, despite the pressure of war-time legislation, to push for a solution to the delivered price problem. But the question is almost theoretical in times of short supply, and for that reason the entire question may be laid aside for the duration of the present crisis.

Rails Ask 4% Increase

The ICC has under consideration a petition from 175 railroads asking for a 4 per cent freight rate rise in Official Territory (east of the Mississippi and north of the Ohio and Potomac Rivers). Applying across-the-board (excepting ccal) the increase would boost rail revenue by \$141 million annually. The increases requested on coal are 12¢ per net ton and 13¢ per gross ton.

END

Please resume reading on Page 41

New Carburetor for Autocar

An improved Holley carburetor, compact, light in weight and with a governor which is an integral part of the design, has been made standard equipment by The Autocar Co. on its Blue Streak 477 and 501 gasoline engines. The governor consists of two units, a diaphragm which actuates the carburetor throttle valves and a mechanically driven rotor which regulates the pressure on the diaphragm.

Even 65° Below is no Hazard!



when you use

MARVEL MYSTERY OIL



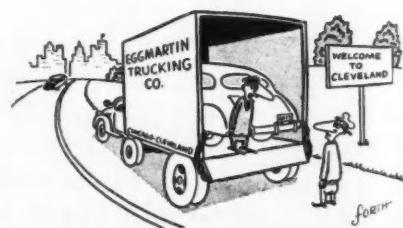
Truckers and fleet owners using this fine product have no winter engine turnover worries.

With an ASTM pour point of 65° below zero, Marvel Mystery Oil assures an ever-ready engine lubricant which will not congeal in the coldest weather, while maintaining the highest quality of lubrication performance.

Marvel Oil has no equal. Ask your dealer about it, or write for complete free information. Dept. 185.

EMEROL MANUFACTURING CO., INC.

242 West 69 St., New York 23, N.Y.



"All I know is that I've been here with my car since you stopped suddenly in Chicago."

400,000 miles without a cent for repairs



J. Tanzola, secretary-treasurer of Western Truck Lines, Ltd., inspects one of the newest units in the firm's present fleet of 158 Stainless Steel trailers.

... that's why
160 Stainless Steel
trailers have been
added to this fleet
in 4 years

● Four years ago, Western Truck Lines, Ltd., Los Angeles, Calif., set out to eliminate trailer repairs and maintenance by putting Stainless Steel trailers into service. Today, several of their older units have rolled up records of 400,000 miles without costing a cent for repairs.

As a result, Western Truck Lines to date has purchased a total of 160 Stainless Steel units. 158 are still in service; two were lost in wrecks.

But the virtual elimination of repair and maintenance costs isn't the only benefit Western Truck Lines has realized from Stainless Steel construction. J. Tanzola, secretary-treasurer of the firm, says, "These Stainless Steel trailers are so light in weight and so ruggedly con-

structed that we can really put on a payload."

Stainless Steel's exceptional strength permits the use of lighter sections, thus eliminating hundreds of pounds of unprofitable deadweight. Consequently, an extra ton of payload rides on every trip.

Stainless Steel trailers are decreasing costs and increasing payloads in more and more trucking fleets. Many are fabricated from U·S·S Stainless Steel. This perfected, service-tested material is available in a variety of forms, grades and finishes that makes fabrication more efficient and more economical. For the finest performance from Stainless equipment, get Stainless at its best—U·S·S Stainless Steel.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND

COLUMBIA STEEL COMPANY, SAN FRANCISCO

NATIONAL TUBE COMPANY, PITTSBURGH • TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM • UNITED STATES STEEL COMPANY, PITTSBURGH

UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST • UNITED STATES STEEL EXPORT COMPANY, NEW YORK



U·S·S STAINLESS STEEL

SHEETS • STRIP • PLATES • BARS • BILLETS • PIPE • TUBES • WIRE • SPECIAL SECTIONS

1-113

UNITED STATES STEEL

New Product Descriptions

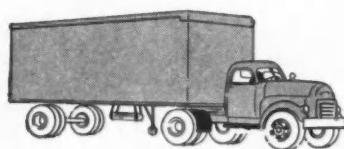
Continued from Page 78

P88. Oil Filter

Purolator Products Inc. of Rahway, N. J., is introducing a new oil filter element that will enable service men to check on the need for element replacing without opening the unit. The manufacturer has provided a "dirt check window" for this purpose.

P89. Tire Preservative

A tire lubricant and preservative is being marketed by American Sand-Banum Co. of New York. The manufacturer claims that the product, when applied as directed, will further the life of the casing, prevent tire-rim freezing, and speed up tire change. It



ALGAS Multi-Jet CARBURETORS

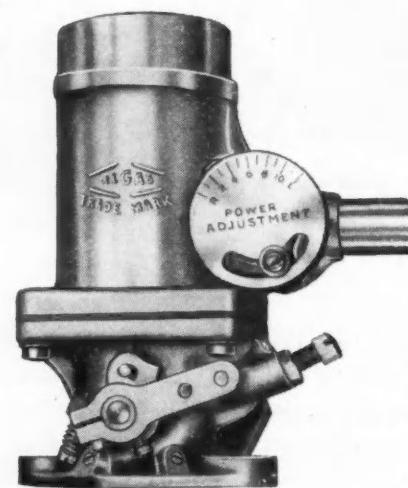
assure more
economical
operation

reduce excessive
maintenance costs

cut motor oil
consumption

accelerate
more power

ALGAS IS A
PIONEER IN
• THE LP GAS
INDUSTRY



ALGAS Carburetion equipment has a record of successful operation in the Butane - Propane fuel field. Eighteen years experience is behind the complete ALGAS line. Today more and more fleet owners are turning to LP fuels because they develop complete combustion that leaves no carbon, sludge or gummy deposits. This means marked economy of operation. As the trend to Butane-Propane continues, the preference is swinging to ALGAS because it stands for perfectly engineered LP equipment.

Write or wire today for
engineering information

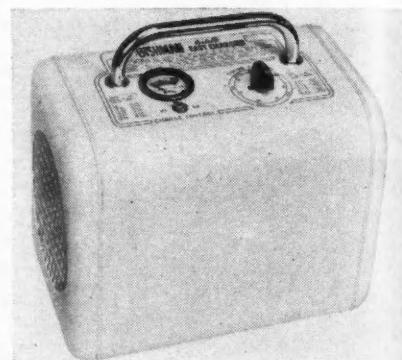
AMERICAN LIQUID GAS CORPORATION

1109 Santa Fe Avenue — Los Angeles 21, California

is said to be of new type composition, non-inflammable, non-toxic, not a petroleum product.

P90. Portable Charger

A new portable 75 amp battery charger with automatic transformer has been presented by Bishman Mfg. Co.,



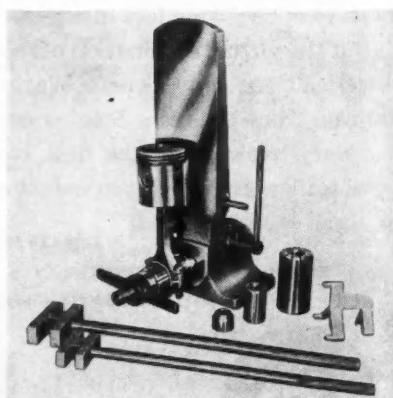
Osseo, Minn. It features a charge voltage indicator and automatic time control. A circuit breaker protects against shorts and reversed leads and the unit is fully ventilated by a 6-in. fan.

P91. Electric Hydrometer

A new Electric Hydrometer that quickly shows the condition of each individual battery cell has been introduced by the Bishman Manufactur-Co. of Osseo, Minn. It consists of a meter with a dial that shows the exact condition of the cell being tested. A prod is used to contact across each cell to test by the open circuit method. Two scales for testing 1280 and 1260 top gravity batteries are provided on the meter.

P92. Rod Aligners

Two vertical model connecting rod aligners made by the K. O. Lee Co., Aberdeen, S. D., are equipped with full-

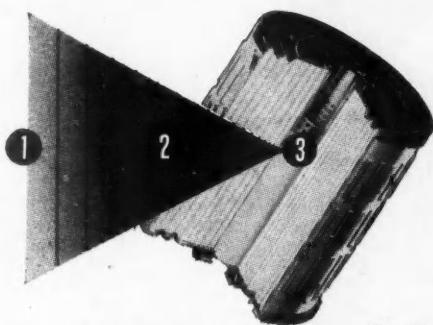


bearing expanding sleeves, heavy and ribbed bases and bending bars. The rod aligners come complete with all
(TURN TO PAGE 148, PLEASE)

"COLD WEATHER SLUDGE"

EXCLUSIVE WALKER

3-WAY FILTRATION



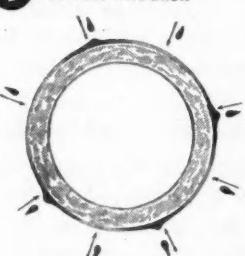
KEEPS OIL EXTRA CLEAN

between

OIL CHANGES

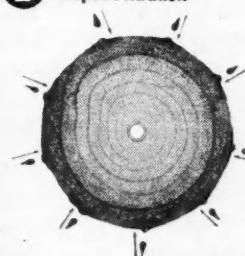
Here's why WALKER patented *Laminar** construction gives EXTRA PROTECTION

1 Surface Filtration



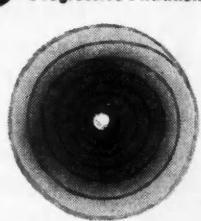
A double wrapping of wood cellulose dispersion strip around the basic filtering matrix provides surface filtration at each successive layer. Strip also disperses oil over entire surface of filtering medium.

2 Depth Filtration



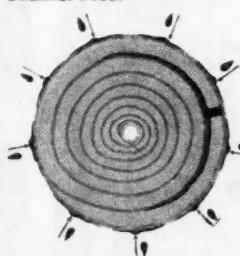
After passing through dispersion strip, oil seeps through filtering matrix—a uniform layer of pure wood cellulose fibres. Filtering action continues through successive layers of dispersion strip and matrix.

3 Progressive Filtration



As oil continues inward, each successive layer of the filtering matrix is finer, more compact . . . selectively removing smaller and smaller particles of "danger dirt" right down to 2/10 of one micron.

Channel-Proof



Exclusive, patented *Laminar* construction makes every Walker cartridge absolutely channel-proof. There are no "low-resistance" spots . . . no natural channels to let unfiltered oil pass through.

FILTERS

PATENTED
with *Laminar**
TRADE MARK
CONSTRUCTION

New Products

Continued from Page 144

necessary parts including checking vee and piston pin gauge. Rods can be checked for bend, twist and offset with one setting. Rod bearing range of Model C101 is 1½ in. to 2¾ in. Model C102 has a range of 1½ in. to 3⅓ in.

P93. Wet Surface Grinder

An automatic wet surface grinder developed by Lempco Products, Inc., Bed-

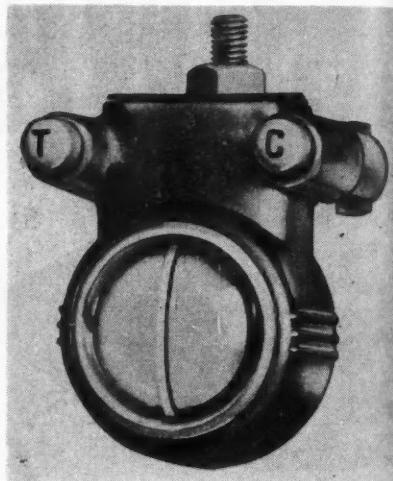
ford, Ohio, features a revolving work table that can be rotated a full 360 deg by crank, to position work at eye level directly under a traveling grinding wheel.

The work is placed either in clamps or set on guide pins that hold the work in position as the wheel grinds and travels across the surface. The grinding wheel shuttles back and forth automatically between reversing levers which limit the field of travel. They can be moved apart or brought together to accommodate size of the work. While block or head is being

ground, operator can set up his next job. The grinder comes equipped with wheel dresser, 4 point star level, leveling jacks, straight edge and work mounting fixtures.

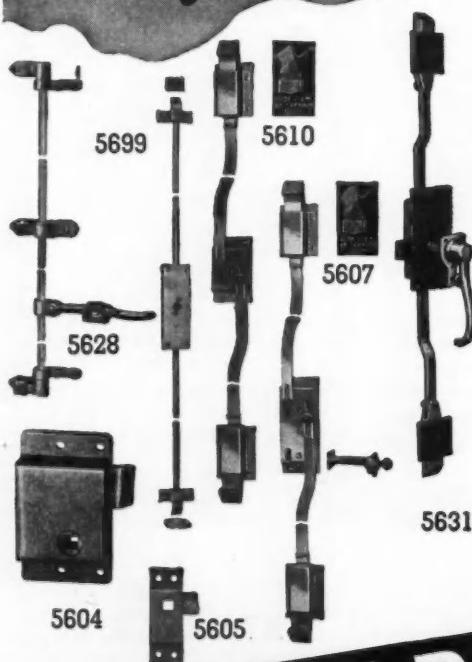
P94. Oil Quick Check

The Oil-Eye Corp. of America, Winona, Minn., has added a double, or two-eyed, unit, with a divided inspection chamber for checking both the crankcase oil and the level and condition of the oil in the automatic transmission.



**GEARED to
the Requirements of**

**TRUCK BODY
BUILDERS
Everywhere!**



Eberhard **(E)** Automotive Hardware is available in a complete line of "Purpose Tested" hinges, latches, door irons, door controls, seat irons, lock handles, seat pedestals, refrigerator locks, panel door locks, van body locks, sliding door locks, ladder holders, etc.

Shown here is but a small assortment of **(E)** items.

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EBERHARD Long Run
TRUCK BODY FITTINGS



EBERHARD MANUFACTURING CO.

Division of the Eastern Malleable Iron Co.

EVARTS AVENUE

CLEVELAND, OHIO

The original one-eyed model provides a means of quick checking of the safe level, as well as the condition, of the oil—from the drivers' seat. In operation, a touch of the driver's finger to a button presents an actual sample of the crankcase oil into a lighted chamber for the driver's inspection.

P95. Electric Cable Hoists

A new series of heavy-duty electric cable hoists is announced by Cleveland Chain & Mfg. Co., Cleveland, Ohio. They are of ½ to 5-ton capacity, and feature a motor enclosed within the cable drum. The manufacturer states that this tends to reduce over-all dimensions and weight, and protect the lift motor against moisture, dirt, etc. The hoists will operate on 220, 440, or 550-volt 3-phase, 60-cycle current.

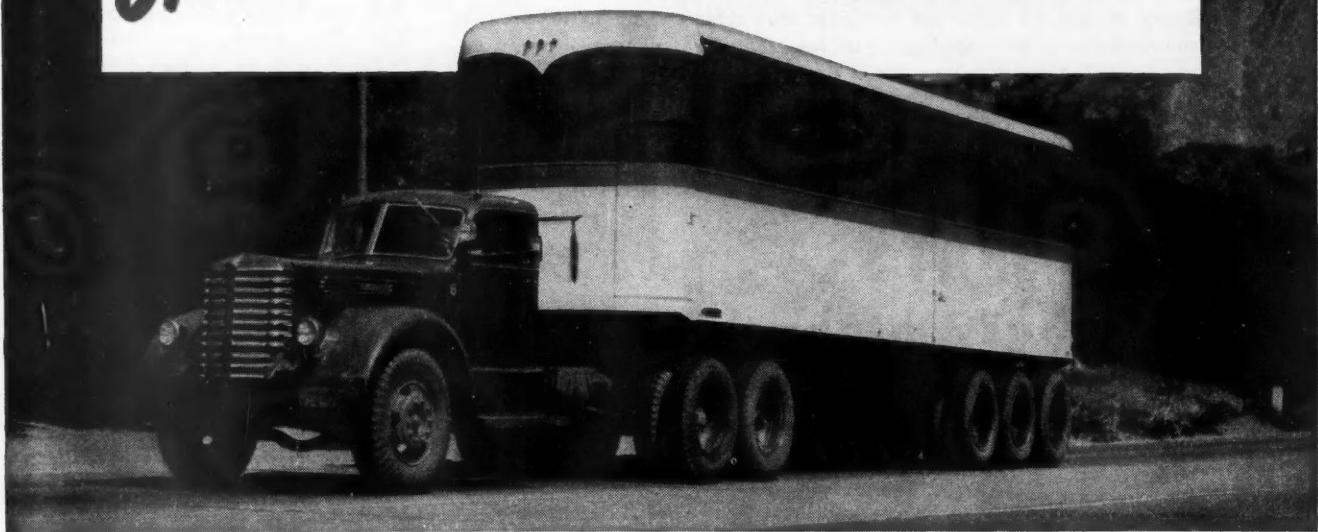
P96. Oil Control Ring

At the ASI Show in Chicago, Wilkening Manufacturing Co., Philadelphia and Toronto, exhibited a new design of oil-control ring, the Pedrick Formflex, type CS8. According to Wilkening, it is suitable for use in new, re-sleeved, rebored, tapered, out-of-round or distorted cylinders.

Feature of the ring is the expander, which is independent of groove depth, (TURN TO PAGE 150, PLEASE)

**FLEET
OPERATORS!**

**Banish Fuel Waste
and Power Loss**



A NEW, QUICK AND EFFECTIVE ENGINE MAINTENANCE PROGRAM!

Results are scientifically checked!

HERE'S HOW IT WORKS. First the crankcases of all fleet units are drained. Then the Cities Service internal engine cleanser, Cisco Solvent, is used to flush out harmful sludge, dirt and power-robbing deposits. The crankcase is then refilled with the correct type and grade of Cities Service motor oil. Next comes the Cities Service Power Prover test. This remarkable instrument is an exhaust gas analyzer. It quickly and accurately determines the exact combustion efficiency of any four cycle gasoline engine. With this information, necessary adjustments can be made easily.

Results are Fast!

From then on, all drivers are alerted to oil contamination. The proper oil change period is set up for each unit in the fleet depending upon the age, operating conditions and rate of oil consumption. The Cisco Solvent treatments are repeated after every second oil change. The Power Prover tests are made at scheduled intervals between oil changes to detect combustion changes before they can do any damage.

This Cities Service "clean engine" maintenance program has shown lower operating costs per mile

. . . lower gasoline consumption and reduced maintenance and repair expense.

A Cities Service representative will be glad to put this program in operation on your fleet (in all Cities Service marketing territories east of the Rockies). Talk to the Cities Service representative nearest you.

If your fleet includes diesel engine units, write today for our new 64 page booklet on Diesel Engine Lubrication. It's absolutely free. Write: Cities Service Oil Company, Room 1216, Sixty Wall Tower, New York 5, New York.

**A complete new line of automotive lubricants,
comprising: REGULAR, PREMIUM and HEAVY DUTY
MOTOR and DIESEL ENGINE OILS, REGULAR and
MULTI-PURPOSE GEAR OILS and GREASES.**



New Products

Continued from Page 148

does not touch the groove bottom, and delivers uniform radial pressure all around the ring circumference. The oil ring is said to be able to adapt itself to practically all conditions of cylinder wear and distortion.

P97. Wiper Motor

A dual electric windshield wiper motor to replace vacuum motors operat-

ing 2 wipers is being introduced by Signal Mfg. Co. of Lynn, Mass. The wiper motor is said to give a steady clean wipe independent of acceleration.

P98. Vacuum Oil Changer

The Visi-Vac vacuum oil changer is a completely self-contained unit designed to withdraw oil through the dipstick hole of any car, making changes possible at the pump island. Complete drain and refill is said to be possible in less than two minutes, without re-

moval of drain plug, climbing under car, or use of rack. A special flexible spring-reinforced neoprene suction tube negotiates necessary angle on all cars where dip-stick hole is not directly aligned with low point in pan. Visi-Vac Div., Apex Mfg. Co., Oakland, Cal.

P99. Hack Saw Blade

This hacksaw blade can be used on any standard hacksaw frame on which blades hook over pins. Known as Zip-Saw, the blade is spiral, like a round file. The manufacturer states that it follows intricate pattern lines, is non-chattering on tubing, pipe, and light gauge metals and can be used to enlarge or ream small drilled holes. It can also be used at moderate speeds in a power jig. 10- or 12-in. blades are available in sets of 3 blades each, one rough, one medium, one fine. K-D Mfg. Company, Lancaster, Pa.

P100. Door Fastener

Door Fastener No. 2300 features refinements in parts, accomplished by the drop-forging process, which permits the use of special carbon steels. The vertical locking bar has an oval section and the upper and lower cams have been increased in length and deeper pockets have been provided in the keepers to ensure positive engagement. W. H. Miner, Inc., Chicago, Ill.

P101. Valve Grinder

A precision wet grinder for valve refacing developed by Cedar Rapids Engineering Co., Cedar Rapids, Iowa, uses interchangeable chucks for stems from 3/16 in. to 1 1/2 in. in diameter, accommodating valve heads to 6 1/2 in.

SAFETY PAYS... on our busy highways!

ANTHES
MOTOFALAR



ANTHES
FOCOFLAR



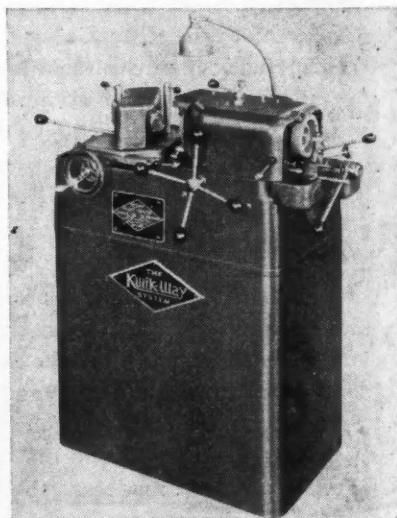
ANTHES OFFERS YOU A CHOICE OF FLARES
IN RELIABLE OIL OR APPROVED REFLECTOR

YES, safety can pay dividends in lives saved and in dollars saved. The price of safety is vigilance and proper safety equipment. Anthes can supply you with approved quality-built equipment. The two units shown above now in most popular demand make Anthes the first line of safety. Write for catalog.

ANTHES FORCE OILER CO. • FORT MADISON, IOWA

Anthes
THE FIRST LINE OF SAFETY

... and proud to serve the safest
drivers on the road!

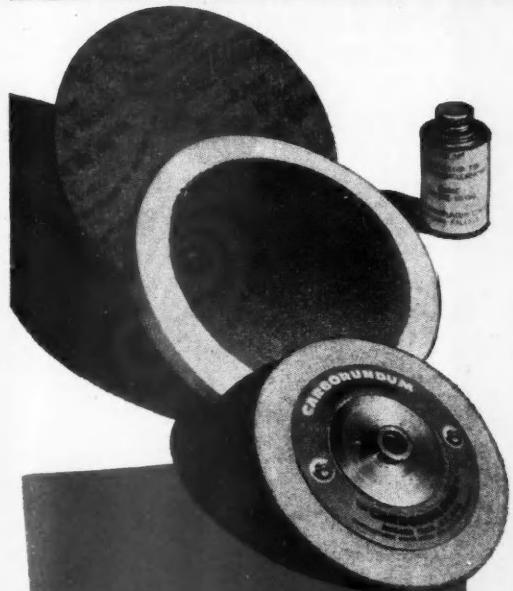


The standard lever-operated chuck will take valves from 1/4 in. to 5/8 in. and remains open at full capacity until
(TURN TO PAGE 152, PLEASE)

CUT SANDING TIME IN HALF

... turn out
better work

- Sand twice the area in the same time.
- Sand contours and reverse curves.
- Eliminate costly hand sanding.
- Feather-edge better than ever before.



**Flexbac®
PAD**
by **CARBORUNDUM**
TRADE MARK

● New method solves
problem of mechanically
sanding undercoats and
final color coats.



"Carborundum", "Fastcut" and "Flexbac" are trademarks which indicate manufacture by The Carborundum Company

Here is the new sanding method about which you've heard so much. This new cushion type resilient rubber FLEXBAC pad enables you to sand 90% of bus or truck bodies mechanically. Coated both sides with pressure sensitive adhesive, it is used wet or dry with FLEXBAC or FASTCUT waterproof paper discs and regular sander pad. Once you've seen how much easier, faster, better . . . and inexpensive it is, you can't afford to be without it. One day's use more than pays for the pad.

Write for details. We'll supply the name of a nearby jobber who can demonstrate how much better this method is. The Carborundum Company, Coated Products Division, Niagara Falls, New York.

New Products

Continued from Page 150

closed by the operator. The other range of sizes is covered by hand-operated chucks. Angle settings are made by built-in stops at 15, 30, and 45 deg.

The machine has a 6-in. valve grinding wheel, a 5-in. surface grinding wheel, and separate $\frac{1}{2}$ and $\frac{1}{6}$ hp motors for the grinder head and valve chuck motors respectively.

P102. Clutch Plates

Each set of a new line of matched set clutch plate combinations consists of an all-metal Velvetouch clutch plate, and two all-metal friction facings for mounting on the flywheel and pressure plates. The friction material used is made from powdered metals and no organic substance or binders are used. Manufacturer states that different powdered metals used minimizes chattering and slipping, promotes positive clutch action, and results in cooler operation. S. K. Wellman Co., Cleveland, Ohio.

P103. 6-in. Grinder

This 6-in. Model A Lima DeLuxe Utility Grinder, made by The Lima Electric Motor Co., Lima, Ohio, features: dynamically balanced rotors; integrally cast wheel guards; adjustable tool rests; fast-grinding, long-wearing abrasive wheels.

Specifications include: fast starting, $\frac{1}{4}$ hp, 3450 rpm Lima motor, prelubricated seal ball bearings, 6-in. dia x $\frac{3}{4}$ -in. face wheels. The Lima Electric Motor Co., Lima, Ohio.

P104. Bushing Expander

This new bushing expander is used with any of seven expander mandrels for bushings in a diameter range of $\frac{3}{4}$ to $1\frac{1}{2}$ in. The tool used with the Sunnen Honing Machine, is said to lock bushings firmly into rods, spindles and other parts. The bushings are made to conform to the contour of the hole. The expander is equipped with a facing cutter for facing off the ends of the expanded bushing. Sunnen Products Co., St. Louis, Mo.

P105. Hot Cleaning Vat

A low-priced hot cleaning vat with automatic elevator designed for radiator repair work is now being marketed by Inland Mfg. Co. of Omaha, Neb. The hot chemical method cleans radiators inside and out. The vat is said to be designed to eliminate the usual hazards of splash burns caused by the

STOPPERS at the SHOW!

EIS

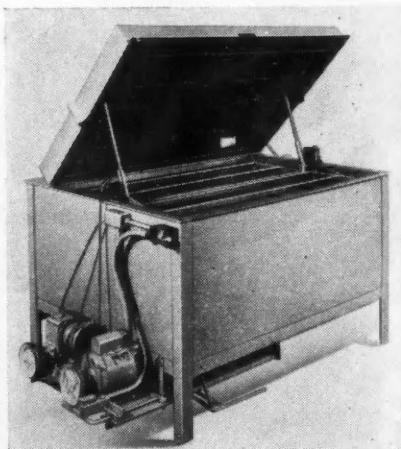
Recognized as the standard for replacement. Designed, manufactured, packaged and priced to meet the needs of service stations and distributors.

THE COMPLETE BRAKE PARTS LINE THE COMPLETE BRAKE PARTS LINE

26 EIS WAREHOUSES are ready to serve you almost anywhere in the world.

Order from your jobber or write us direct for information on the complete EIS Line.

EIS
The BRAKE PARTS Line



hot solution. The elevator, according to the manufacturer, allows the operator to raise and lower radiators into the chemical without splashing.

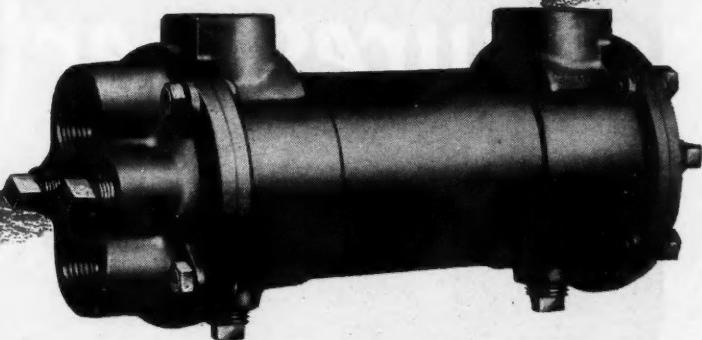
P106. Battery Charger

"Unitized" multiple-circuit battery charging of driver-ride electric trucks, with a new charger, consisting of a motor-generator and a generator con-

(TURN TO PAGE 154, PLEASE)

For Safety . . .

MAKE SURE THAT
YOUR NEXT BUSES OR TRUCKS
INCLUDE THIS



If your buses are to have torque converters . . . or if your new buses or trucks are of the big, fast, long-haul class, then this is an important safety message directed to you!

- To keep torque convertor oil cooled to safe and most effective temperatures, many bus manufacturers have adopted Ross Type BCF Exchangers as standard, factory-furnished equipment. Thus, built-in protection against seizure of delicate parts . . . the result of excessive heat, is provided for their customers. *Make sure your bus manufacturer gives you this same protection!*

- To maintain engine lube oil within the safest and most efficient lubricating range, many bus and truck manufacturers include Ross Type BCF Exchangers as basic and fundamental, standard equipment on their high-speed, cross-country models. They recognize the need for such supplementary cooling to assure long bearing life and safeguard other vulnerable engine parts. *Look for this on your detailed parts list. If it isn't there, request it!*

★ NOT TOO LATE TO PROTECT UNITS IN
YOUR PRESENT FLEET

While Ross exchangers are usually built-in at the factory, buses or trucks already in operation without them may add this protection, too, at small cost, using standardized units. For complete information on equipping both new vehicles and those already in service, write—

ROSS HEATER & MFG. CO., INC.
Division of American Radiator & Standard Sanitary Corp., 1442 West Ave., Buffalo 13, N. Y. In Canada, Horton Steel Works, Limited, Fort Erie, Ont.

ROSS
EXCHANGERS

FOR ENGINES AND TORQUE CONVERTORS

Serving home and industry

AMERICAN STANDARD • AMERICAN BLOWERS • CHURCH SEATS • DIFCO LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • THERMOCOUPLES

Follow the Leader!

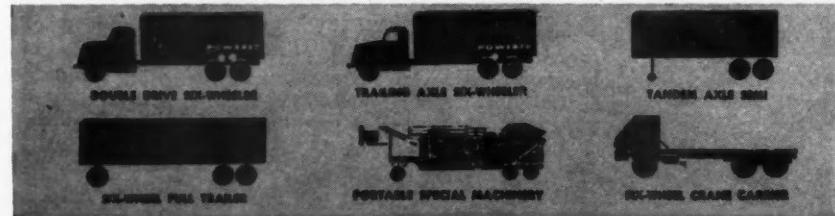


assures perfect axle alignment

- This tandem axle unit stabilizes the load . . . eliminates brake and starting chatter . . . assures perfect axle alignment—ends tire scuffing—under all road and load conditions.

These and many other reasons are why so many leading operators find Hendrickson Tandem Axle Units an important factor in hauling heavier payloads faster . . . for less.

For your present rig—for the rig you plan to buy—follow the leader . . . equip with Hendrickson Tandem Axle Units for more efficient operation.



HENDRICKSON'S ONE BASIC DESIGN IS RIGHT FOR EVERY TANDEM APPLICATION

HENDRICKSON MOTOR TRUCK COMPANY
5001 West 57th Street • Lyons (Chicago Suburb) Illinois

New Products

Continued from Page 152

trol panel, are available in units of 2, 3, 4, or more circuits, and additional charging panels can be added at any time to increase the service factor up to the capacity of the motor generator—150 K.W.

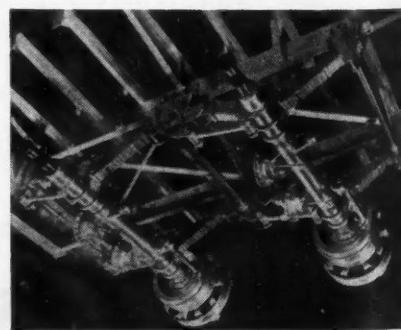
All controls are push-button operated. Ammeters, voltmeter and automatic cut-off devices are visible on the front. The generator field rheostat and all live parts are mounted on the back of the switchboard. The Hertner Electric Co., Cleveland, Ohio.

P107. Battery Charger

Addition of a new fast battery charger to the "King" line of equipment is announced by Electric Heat Control Co., Cleveland, Ohio. It is a heavy-duty charging unit with an individual cell analyzer, mounted on 8-in. rubber-tired wheels. A weather-proof case and control cover protects all vital parts from rain, snow, and dirt, the manufacturer says. The charger is 18½ in. x 19 in. x 35 in. overall and is available for operation on 110 or 220 volts 60 cycle ac current.

P108. Tandem Assembly

A new tandem assembly featuring extra-long springs designed for load support with maximum flexibility has



been announced by Steel Products Co. The manufacturer claims that the new tandem assembly will save on tire wear and assure positive axle alignment. Overhaul kits will be available at a much lower cost.

P109. Vacuum Sander

This funnel-shaped vacuum sander is coated on the inside to eliminate moisture. Made in 6-in. and 8-in. widths, the rate of feed is controlled by valve action from the cab. An auxiliary vacuum pump maintains vacuum at (TURN TO PAGE 156, PLEASE)

Championship Class!

• The superior quality of Ditzler Finishes is best shown by their championship performance in the automobile industry. For nearly fifty years Ditzler Finishes have been preferred by most of the leading manufacturers of passenger cars, trucks and buses. This continuous preference, which lifted Ditzler to its present rank as the leading *exclusive* manufacturer of automotive finishes, was gained solely by the year-in and year-out *dependability* of its products. There can be no stronger proof that Ditzler Finishes are better than any others for all your refinishing needs.



3 Big Reasons Why Ditzler RIP RAP Is Better Than Other Primer Surfacers

• High solid content gives more film-forming materials—fewer coats are necessary.

• Sands easily and feathers out beautifully—no splitting or chipping at the edges.

• Extra-good holdout increases durability and keeps paint jobs looking better longer.

Ditzler Rip Rap is available in three popular colors—Dark Gray, Neutral Gray and Red Oxide—in easy-to-pour cans.

DITZLER COLOR DIVISION, Pittsburgh Plate Glass Company, Detroit 4, Michigan



New Products

Continued from Page 154

high altitudes or when vehicle is operating under extreme load. The valve opens to $1\frac{1}{4}$ in. and permits fine, medium or coarse grit to be used. K. W. Vacuum Sander Co., Dixon, Ill.

P110. Third Axle Assembly

A linking device between the wheels of the driving axle and the third axle assembly is the principal feature of the

new auxiliary unit offered by Truck Equipment Co. of Buffalo, N. Y. The manufacturer states that this linkage equalizes the load between the leading and following wheels, permitting the former to take up to 14 in. bumps or holes without lifting the other tires from the ground, or shifting the weight from one axle to the other. In detail, a "batwing" part holds the spring to the truck frame. The rear eye of the drive-spring assembly links to the walking beam of the third axle through two forged arms. The maker also states that in operation, the new assembly

greatly reduces road shock to the truck frame.

P111. Clearance Light

A thin clearance lamp has been announced by Yankee Metal Products, Norwalk, Conn. The lamp has a one-piece body which extends only $1\frac{1}{8}$ in. from the truck body. A clamp ring holds the $3\frac{1}{4}$ -in. lens in place against a gasket that seals off dust and moisture, the clamp ring can be flipped up with a screwdriver for lens replacement. There's a choice of red, amber, green, or white lens—in 6 or 12 volt bulb size.

P112. Slide-set Vise

A machinist's vise with a sliding jaw is offered by Dodge Mfg. Corp., Mishawaka, Ind. Turning the handle counter clockwise puts the vise in a neutral position. The forward jaw then may be slid open to the desired position and tightened against the work in a single twist of the handle. The manufacturer states that the new vise is available in 4 in. size with stationary or swivel base.

P113. Drill and Power Hoist

Skillsaw Inc. of Chicago has a new combination drill and power hoist. The drill unit may be taken out of the hoist bracket and used as a hand tool for most drilling jobs. In position for operating the hoist, the drill motor has a hoisting capacity of 1000 pounds at 10 fpm.

P114. Cleaning Machine

A new model steam cleaning machine produced by Clayton Mfg. Co. has a submerged soap pump of the self-priming type with a single discharge valve. The manufacturer says

Here's PROOF of
AIRTEX Fuel Pump
Superiority

Better!
50,000-MILE
Guaranteed
Diaphragm
What's crack or leakage
of 2% below, or top our
guaranteed 50,000 miles?

Better!
Rugged,
Hardened
PULL ROD
Guarantees efficient
valve action and
longer service.

Better!
Patented
VALVE CAGE
ASSEMBLY
Reduces leaking
from pump seal to carburetor.

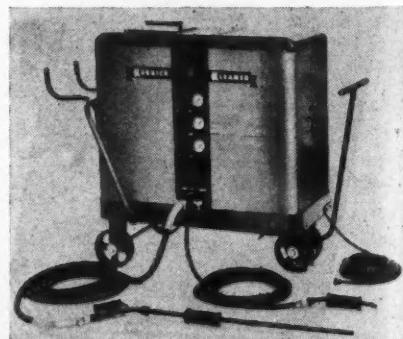
Better!
LINKAGE
Built to Last
Gives quick, positive
linkage for easier start.

Better!
Longer
Wearing
ROCKER ARMS
Self-aligning.

Use the AIRTEX NEW PUMP CORE CREDIT PLAN For EXTRA PROFITS!

Single type old cores worth 25¢ each on new single pump purchases. (Dual type worth 50¢.)

AIRTEX
AUTOMOTIVE DIVISION
World's Largest Independent Fuel Pump Manufacturer
FAIRFIELD, ILL.
Get Your FREE AIRTEX FUEL PUMP SALESMAKER WALL POSTER—Ask Your Jobber Today



that the advantages of the new machine over other models is the range of working pressures from 30 psi for paint stripping to 100 psi for heavy duty cleaning.

END

Please resume reading on Page 80

More Power

That's what car owners and fleet operators want. That's what vehicle manufacturers are providing. But today's engines are more subject to

Block Distortion!

Why have so many engine manufacturers adopted expander-type oil rings as original equipment? Because repeated increases in power output have multiplied the possibilities of *block distortion*!

The flexibility and adaptability of the expander-type rings are essential to compensate for these conditions.

And if adaptable rings are essential to efficient performance in *new* engines, it's obvious that adaptability is even more necessary in re-ring or rebuild jobs. That's where Pedrick Engineered Sets come in! Each Pedrick set is specifically engineered to meet *today's* requirements in individual engines . . . with adaptability that controls blow-by, maintains compression, and is *guaranteed* to reduce the excessive oil consumption that follows block distortion. For the sets you need, see your Pedrick jobber! WILKENING MANUFACTURING Co., Philadelphia 42, Pa. In Canada: Wilkening Manufacturing Company (Canada) Ltd., Toronto.



"HEAT-SHAPED" PISTON RINGS *in Compensation Engineered Sets*

FOR 31 YEARS, SUPPLIER OF PISTON RINGS TO LEADING VEHICLE AND ENGINE MANUFACTURERS

CCJ News Reports

Continued from Page 27

likely to be further revised based on public hearings scheduled by the Commission.

Meanwhile, the ICC has consolidated and re-published its "Regulations for Transportation of Explosives and other Dangerous Articles" which affect all carriers. Copies of the new 300-page book are available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.



CP-730 running oil pan screws

from oil pan screws to spring U-bolts

It's but a matter of seconds to run any nut, bolt or cap screw on car or truck with a CP reversible Air Impact Wrench. Wrenches from 7/16" to 1" bolt size have detachable angle heads, and the 1 1/4" bolt size (CP-365) is available in straight or angle-head models.

Air consumption is low, the average being about that of a grease gun.

Controllable power assures that nuts and cap screws on hydra-matic units, connecting rods, cylinder heads and main bearings, can be run to proper tightness.



CP-770, with detachable angle head, tightening spring U-bolt

Capacities

CP-730	to 7/16" bolt size
CP-750	to 5/8" bolt size
CP-770	to 1" bolt size
CP-365	to 1 1/4" bolt size



**CHICAGO PNEUMATIC
TOOL COMPANY**

General Offices: 8 East 44th Street, New York 17, N. Y.

AUTOMOTIVE SERVICE EQUIPMENT • FENDER IRONS • ELECTRIC TOOLS
AIR IMPACT WRENCHES • AIR COMPRESSORS • PNEU-DRAULIC PUMPS

1950 Domestic Motor Truck Factory Sales by G.V.W.

	5,000 lb. and less	5,001- 10,000	10,001- 14,000	14,001- 16,000	16,001- 19,500	19,501- 26,000	Over 26,000	Total
January	39,252	19,251	6,804	13,093	2,680	1,816	1,482	84,378
February	39,629	17,151	6,032	11,739	2,720	2,157	1,511	80,939
March	47,828	20,921	7,200	14,644	3,880	3,474	2,062	98,808
April	46,375	19,025	5,884	12,971	3,391	3,322	2,326	93,294
May	52,805	21,935	7,488	16,721	4,077	3,598	2,393	108,997
June	58,892	24,249	8,158	18,488	4,104	3,507	2,638	120,236
July	47,590	20,991	6,550	13,489	3,780	3,489	2,684	98,573
August	58,084	24,223	7,674	18,395	4,872	5,163	2,861	121,272
September	51,888	15,082	5,476	12,844	2,651	3,317	2,090	93,348
October	46,700	24,932	5,020	12,073	2,678	3,751	1,933	97,087
Ten Months—1950	489,043	207,760	66,266	144,457	34,633	33,594	22,180	987,933
Ten Months—1949	400,986	231,889	63,086	122,363	23,455	16,546	12,400	870,734

1950 Truck Trailer Shipments*

	September	Nine Months
Vans		
Insulated and refrigerated	358	2,752
All other closed top	3,080	21,306
Open top	506	2,845
Total—Vans	3,944	26,903
Platforms		
With cattle and stake racks	160	1,147
With grain bodies	84	492
All other	1,04	6,558
Total—Platforms	1,258	8,197
Tanks		
Petroleum	353	.....
All other	27	.....
Total—Tanks	380	2,798
Pole and logging		
Single axle	149	985
Tandem axle	143	937
Total	298	1,922
Low-bed heavy haulers	168	1,306
Dump trailers	63	604
All other trailers	457	2,513
Total—Trailers	6,568	44,243
Trailer chassis	193	1,620
Total—Trailers and chassis	6,761	45,863

* Industry Division, Bureau of the Census.

Transport Vehicle Show in N. Y.

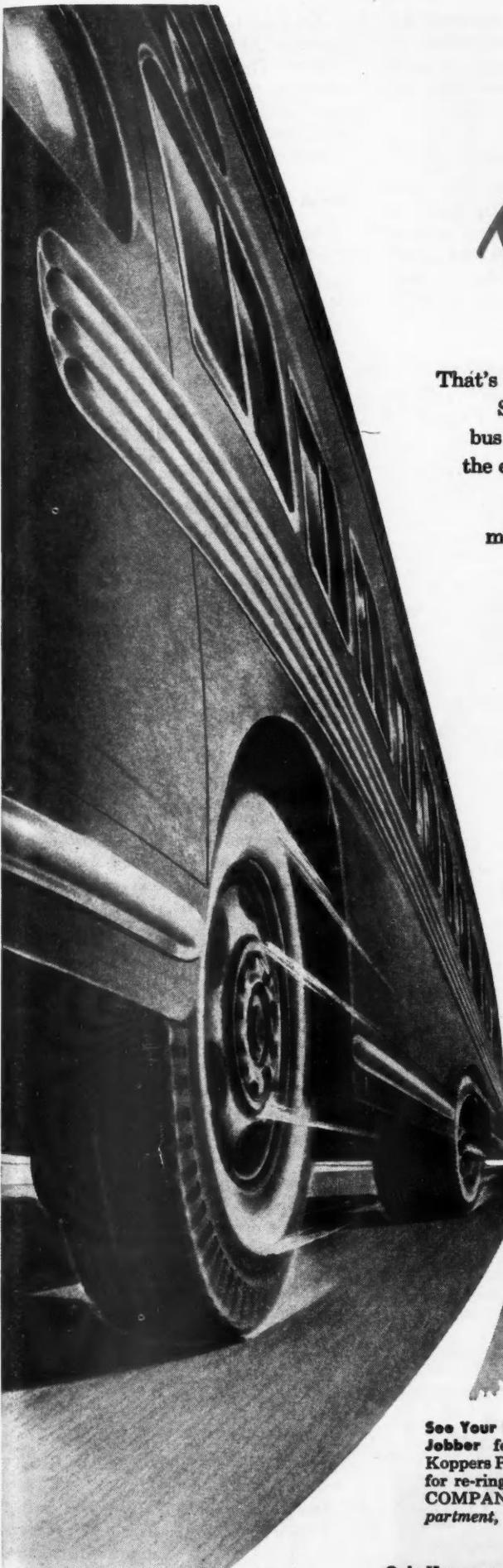
Preview for the Transport Vehicle Show at New York City will be held Jan. 31, at Madison Square Garden, and the following four days, Feb. 1-4, will be devoted to daily sessions from noon to 10:30. Demonstrations will cover products of the automotive and related industries shown at individual booths, while an exhibition hall will be reserved for demonstrations of the uses to which certain approved equipment is put. One-half hour demonstrations will also be conducted on safety devices and safety instruction practices.

Safety Council Names Executives

A new executive committee has been named to the National Safety Council. Clay Calkins, of the Pacific Motor Trucking Co., takes over as chairman general. N. E. Aiken, of Commercial Motor Freight, and J. P. Hightower, of Penna. Greyhound Lines, become vice chairmen, while F. J. Wirken, Interstate Bakeries Corp., will serve as secretary.

(TURN TO PAGE 160, PLEASE)

COMMERCIAL CAR JOURNAL, January, 1951



350,000 miles on one set of KOPPERS *K-Spun* porous chrome piston rings

That's the outstanding record set by a bus of The Old Spanish Trail Stages, operating out of Del Rio, Texas! At that mileage, the bus was using only one quart of oil every 1,200 miles! And when the engine was torn down, cylinders showed a wear of only .004"!

Koppers K-Spun is an entirely different piston ring material, manufactured by a centrifugal casting process. K-Spun is twice as strong—4 times more resistant to combustion shock and much more resistant to wear than ordinary ring materials. *And Koppers K-Spun Rings are guaranteed against breakage in installation or in service!*

Koppers Porous Chrome* has proved to be the outstanding piston ring development of the century. The porous surface holds and distributes oil during break-in, quickly wears down to a perfect seat of long-wearing, solid chrome! Koppers Porous Chrome Rings last up to 4 times longer than ordinary rings . . . reduce cylinder wear 50% or more! And most important—Koppers puts the chrome where it belongs—on the top compression ring—the ring that gets the most wear, the most heat, the least lubrication!

If you want to cut down-time, lower operating costs, increase mileage and profits—specify Koppers K-Spun Porous Chrome Piston Rings next time you overhaul!

*Van der Horst Process.

See Your Koppers American Hammered Jobber for these extra long wearing Koppers Piston Rings—equally effective for re-ring or rebore jobs. KOPPERS COMPANY, INC., Piston Ring Department, Baltimore 3, Maryland.

Only Koppers can furnish K-Spun or Porous Chrome!



CCJ News Reports

Continued from Page 158

Shipping Rates Approved

The Interstate Commerce Commission has approved a return rate of one-half of fourth class rate on pallets, skids, platforms, knocked down or folded flat shipping containers for any quantity returned over the routes of carriers which transported the loaded

containers. This applies to truck shipments between points in Illinois, Indiana, Kentucky, Michigan, Missouri, Ohio and Wisconsin. Other states may be covered later upon petition.

Local Drivers Up 5 Cents

Pay scales of unionized local truck drivers paid on an hourly basis advanced on the average by 5 cents an hour between July 1, 1949, and July 1, 1950, while drivers' helpers' scales moved up 6 cents an hour, according to the Labor Dept.

On July 1, 1950, union hourly scales averaged \$1.60 for drivers and \$1.34 for helpers. These scales do not reflect overtime or premium pay. Local drivers paid on a mileage or commission basis and over-the-road drivers were not included in the study.

ATA Committee Named

American Trucking Associations' Industrial Relations Committee has been appointed for the coming year. Selected to serve his fifth term as chairman was George H. Tiernan, president, Motor Transport Co., Milwaukee, Wis. Appointed vice-chairmen of the committee were: Carl H. Ozee, vice-president, Hayes Freight Lines, Inc., Mattoon, Ill.; and Ray Lilienquist, Inland Freight Lines, Salt Lake City, Utah.

Herbert W. Alden Dies

Col. Herbert W. Alden, director of engineering, Timken-Detroit Axle Co., passed away in November. Col. Alden helped develop four-wheel drive for trucks, inclined steering-knuckle pins, automatic ignition advance, and three-speed and reverse transmissions. In the last war, Col. Alden served as ordnance consultant to the Chief of Ordnance.

Freight Volume Increase

The volume of freight transported by motor carriers in October, 1950, increased 3.9 per cent over September, 1950, and 28.1 per cent over October, 1949, according to statistics compiled by the American Trucking Associations' Research Department.

Comparable reports received by ATA from 286 carriers in 42 states showed these carriers transported an aggregate of 4,515,214 tons in October, as against 4,345,830 tons in September and 3,523,795 tons in October, 1949. Approximately 72 per cent of all tonnage transported in the month was hauled by carriers of general freight. The volume in this category increased 4.3 per cent over September and 23.9 per cent over October, 1949.

The volume of intercity tonnage transported by Class I intercity motor carriers of property climbed 27.2 per cent in the third quarter of 1950 above the volume hauled in the third quarter of 1949, to establish an all-time third-quarter record.

GMC Diesel Schools Open

A new GMC diesel truck service training program will train 1500 mechanics from 1000 GMC dealer points by the end of 1951. The new program is conducted by factory instructors
(TURN TO PAGE 162, PLEASE)

Here's the
W.G.B.
Replacement
CARTRIDGE
That Can
Improve
Your OIL
FILTRATION
— Regardless
of What Make Oil
Filter You May Use!

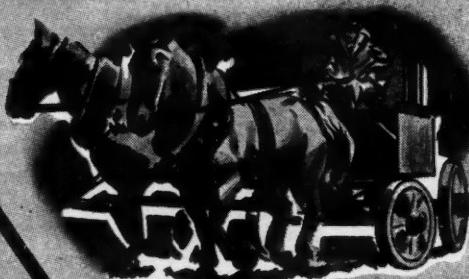
Write today for details about the W. G. B. Fleet Filtration Plan

W.G.B. OIL CLARIFIER, INC.
KINGSTON, N. Y.

Drivers

Get tired -

when they do part of the
horse's work



In the days when horsepower had four legs and was fueled with oats, drivers did not steer vehicles. They guided the team and the animals supplied the work of turning.

Today, with trucks, buses and materials handling equipment many times heavier than any horse-drawn vehicle, the driver too often has to supply the physical effort. The power to turn must come from his arms, shoulders and back.

He's doing part of the work that used to be done by horses. No wonder he tires and loses efficiency. It takes a lot of work to herd a vehicle that has heavy loading on the steering axle.

It's hardly progress to eliminate the horse and then do some of his work.

Vickers Hydraulic Power Steering doesn't give that work back to the horse—it gives it back to horsepower. It takes the work out of steering . . . requires no more effort than a "flick of the reins". Wheeling a vehicle around is much less tiresome, so, naturally the driver can do his job better and with greater safety.

VICKERS Incorporated
DIVISION OF THE SPERRY CORPORATION

1418 OAKMAN BLVD. • DETROIT 32, MICH.

Application Engineering Offices: ATLANTA • CHICAGO • CINCINNATI
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ROCKFORD • ST. LOUIS • SEATTLE • TULSA • WASHINGTON • WORCESTER

Ask for Bulletin 47-30a and
data sheet #120397 for further
information on these units.

**VICKERS hydraulic
POWER STEERING**

Is Effortless, Positive and Shockless

CCJ News Reports

Continued from Page 160

using mobile diesel service training units operating within specified regions. The course will last five days.

Truck Registrations Up

New trucks licensed in October went over the 100,000 mark, to make the month the fifth best in automotive history. On the basis of registrations

compiled in 44 states, R. L. Polk & Co. estimated the total for October at about 101,000 units. This would mean that new truck registrations for the month would be exceeded only by the three record-breaking months of July, August and September, 1950, and April, 1948.

New Freight Car Shown

A new freight car of revolutionary design and construction called the "Unicel" has been developed by Pressed Steel Car Co.

The new car is constructed of cellular laminates, a relatively new material made by laminating strong plywood grain-against-grain with specially-formulated super-strength plastics and subjected to tremendous electronic pressures molding the sections to form a single unit-cellular structure, from which it derives its name, "Unicel." The only steel used in the construction of the car is in the undertruck, the door frames, and in various other parts such as the draft gear and coupling device.

Asks Tax Exemption

A spokesman for the trucking industry has asked the House Ways and Means committee to exempt the trucking industry from proposed excess profits taxation.

H. D. Horton, past president of ATA and board chairman of Associated Transport, Inc., of New York, told the committee that adoption of the Treasury Department's tax proposal will "tend to defeat every stated objective of the Administration's tax program" if it is applied to motor carriers.

The Treasury Department proposes to raise four billion dollars by a 75 per cent excess profits levy based on the best three of the four years 1946-49.

Repairs for Leased Trucks

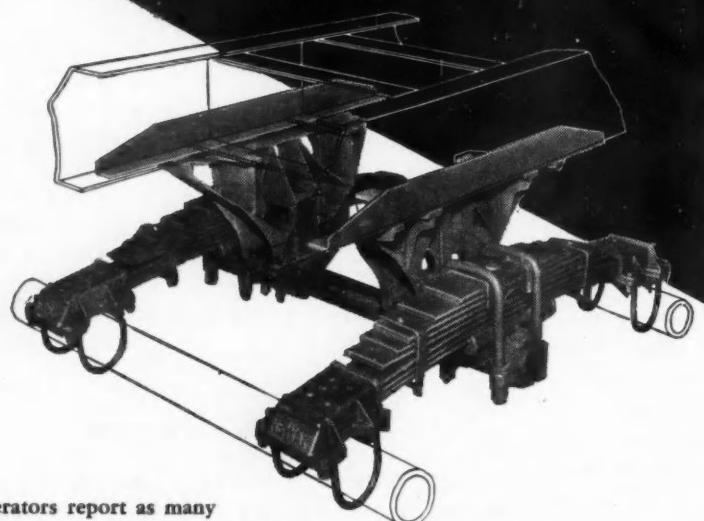
National Truck Leasing System has put into operation a cooperative maintenance and repair program which makes emergency service available for member-owned vehicles in 33 states and the District of Columbia. Under the plan, a member's truck which is leased or rented to a customer, will be serviced at the nearest garage of any NTL System member.

(TURN TO PAGE 164, PLEASE)

no maintenance

with NEWAY

tandem axle



Operators report as many as 200,000 miles of service with no maintenance expense or down time. The trunnion shaft is mounted on two rubber bushings, eliminating the necessity of lubrication at this point.

the NEWAY Tandem Axle gives you:

- LOWEST POSSIBLE UNSPRUNG WEIGHT
- EASY RIDE AND EASY HANDLING
- NO ROAD-HOPPING OR TIP-OVER ACTION
- NO RADIUS RODS TO ADJUST
- PERMANENT ALIGNMENT
- SUPERIOR SPRING DESIGN
- LOAD EQUALIZED BETWEEN AXLES
- THOROUGHLY ROAD TESTED AND PROVEN IN SERVICE

Write today for more complete information and specifications.

NEWAY Equipment Company

Muskegon, Michigan, U. S. A.

ALSO MANUFACTURERS OF THIRD AXLES FOR TRUCKS AND TRACTORS



"Happens every darn time."

WHEN YOU SPECIFY TRUCK CAPACITY

Don't Overlook Driver Capacity

When you buy new equipment, be sure you improve driver efficiency as well as mechanical efficiency. Bear in mind that nothing contributes more to driver fatigue than poor seating. Specify Bostrom hydraulic seats that reduce fatigue, promote safety, and cost less in the long run.

Leading Manufacturers Offer Bostrom Hydraulic Seats "Factory Installed"



International
Harvester Co.
No. 1656



General Motors
Corp.
No. 2233268

FEDERAL

Federal
No. 56-D-3201



Diamond T
No. P-1378



Reo
No. 734-R6X



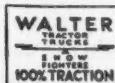
Four Wheel Drive
No. 5688-47

OSHKOSH

Oshkosh
No. 1957G

Sterling

Sterling
No. 4UB1416-3



Walter
No. AD-904

Peterbilt

Peterbilt
Standard Equip.

Available

Available
Bostrom
No. 20601

COLEMAN

Coleman
Bostrom
No. 20601

DUPLEX

HENDRICKSON

Dart

KENWORTH

Duplex
Bostrom
No. 20601

Hendrickson
Bostrom
No. 20601

Dart
Bostrom
No. 20601

Kenworth
Bostrom
No. 20601



Shock absorber and suspension mechanism of Bostrom seats soak up jolts and jars. Fore and aft adjuster accommodates all drivers. Steel frame and mechanism outlast the truck; eliminate repairs. Snap-on seat coverings can be replaced in 10 minutes; eliminate upholstery jobs.

Specify Bostrom Hydraulic seats on all new equipment at low "factory installed" prices.

BOSTROM MFG. CO.
Milwaukee 4, Wisconsin

CCJ News Reports

Continued from Page 162

Tire Production Up

Manufacturer's shipments of truck and bus tires in October were up 9.42 per cent to 1,368,910 tires from 1,251,055 units in the previous month while production of truck and bus tires rose to 1,345,287 tires from 1,194,871 in September, an increase of 12.59 per cent. Inventories totaled 898,902 tires,

a reduction of 2.90 per cent from the end of the previous month when 925,699 tires were in stock.

Service Offered . . .

Raybestos Division, Bridgeport, Conn., is now offering fleets answers to engineering service needs and the promise of product performance in the form of a fleet engineering service. The company will provide material giving technical data on brake installation, brake block efficiency and fleet recommendations based on surveys.

20,000 Visit Asis Show

Everything was bigger than it had ever been in the 25-year history of the Automotive Service Industries show, held at Navy Pier, Chicago, Dec. 4 through 8.

Before the show opened on Monday, more than 20,000 automotive wholesale tradesmen from the United States and 43 foreign countries had applied for credentials, and practically everyone showed up to claim them. The total attendance for the five days, reported by A. B. Coffman, show manager, was 42,419. More than 500 exhibitors used a total of 1420 booths, filling every inch of Navy Pier's 175,000 sq ft of available exhibit space. No figures on business done during the show are kept by the committee in charge, but all manufacturers selling at the show reported heavy buying.

Safety Films Available

"Speaking of Safety," a new series of six training films showing supervisors and foremen how to address and conduct meetings, has just been announced by the National Safety Council, Chicago.

"The Power of Speech," "Butterflies in Your Stomach," "The Key to Good Speaking," "On Your Feet," "Now You're Talking," "Ring the Bell" are titles of the fine films.

The films are standard, 35 mm soundslide, with 16-in. records, 33 1/3 rpm. Single sets of the six films, packaged in a leatherette case containing a leader's manual, are offered to members of the National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill., at \$100 each.

Buy's Drum Jack Corp.

The Cleveland Pneumatic Tool Co. has announced the absorption of the Drum Jack Corp. into the parent organization as the Automotive Division which will market a multi-purpose unit lift under the name of "Aerol Lift."

Protests Hijacking Story

The Freight Claim Committee of ATA has adopted a formal resolution protesting against a *Reader's Digest* article on truck hijacking in the December issue, and also against the Cargo Protection Bureau in New York, said to have been the source of statistics used in the article. Title of the Digest article was "Hijacking is Big Business" and it was identified as a condensation of an article written by Irwin Ross for the *Minneapolis Sunday Tribune*.

The Committee contended the article
(TURN TO PAGE 166, PLEASE)

FINEST APPEARANCE AND LOWEST COST

ONE-PIECE ALL-PLASTIC FRONT, LENS AND HOUSING REFLECTOR

CHECK THESE FEATURES

- ✓ Rugged, All-Plastic Front
- ✓ Rust-Proof, No Metal Parts Exposed
- ✓ Shatterproofed Grotelite Plastic Face
- ✓ Sparkling Appearance
- ✓ Low Cost — Less Replacement

Low cost—pleasing design—plus sparkling appearance mark this new one-piece, precision-molded PLASTIC REFLECTOR. Will not fade or discolor. No metal parts exposed to corrode. Designed for quick — easy installation.

Demand GROTE
Lamps and Reflectors.
Sold by leading
automotive jobbers.

Most compact — Grotelite shatterproofed plastic lens — three flares fit into metal case.

Full line of stop lights and sets for school bus — all comply with new regulations.

Streamline design — with plastic lens — sponge rubber mounting pad.

The GROTE
MANUFACTURING CO., INC.

BELLEVUE, KENTUCKY

Established 1901



PRINCIPLES ARE
OFTEN COPIED BUT

NEVER EQUALLED

YOUR ASSURANCE OF THE BEST IN
TRACTOR-TRAILER CONNECTORS

IS *Berg*

CHECK THESE BERG ORIGINALS

- The original connector with a "flap" door.
- The original connector with color coding.
- The original connector with cable clamps.
- The original connector with asymmetrical design and positive locking.



No. 701—7-Way Con-
nector Arranged for
Surface Mounting.



No. 700—7-Way Con-
nector Arranged for
Flange Mounting.

Write today for full information on

**THE NEW BERG "UNIVERSAL" 7-WAY
TRACTOR-TRAILER CONNECTOR CON-
FORMING WITH ALL ATA SPECIFICA-
TIONS NO. E-1-1950 AND WITH THE**

24 Plus Features!

Also literature including ATA Specifications, Suggestions for Change-Over and Prices



MANUFACTURING & SALES COMPANY, INC.

18 E. 18th Street • Chicago 16, Illinois

We are continuing
to manufacture
the well known and
widely accepted
SHUR-LOCK and
ROYAL Tractor-
Trailer Connectors.

CCJ News Reports

Continued from Page 164

contained erroneous statistics and misleads the public to believe hijacking is so frequent it is hazardous to ship valuable cargoes by motor common carriers. It added that publications of the Cargo Protection Bureau fail to indicate any source to establish their reliability.

Drivers Not Exempt

Drivers for private carriers may not be exempt from the Wage-Hour Act if they are engaged in any operation preparatory to or in the performance of a government contract under the Walsh-Healey Act. A detailed memorandum, prepared by W. G. McIntyre of the Industrial Relations Department of the American Trucking Association, says that time and a half must be paid in such instances for any hours worked over the 8-hour day or 40-hour week. The Walsh-Healey Act does not ex-

empt any employees subject to the Motor Carrier Act or the Fair Labor Standards Act. It is believed to take precedence over either of the latter.

ATA Surveys Manpower

The manpower situation both of the present and the immediate future is the subject of a recent survey made by ATA. Complete data is not available at present but when reports are completed an overall picture of the situation will be prepared. The problem has developed by the acute international situation and the tightening of draft and service deferments.

Scott Named to Accounting

Reappointment of A. P. Scott of Associated Transport, Inc., New York, as chairman of the American Trucking Associations' National Committee on Accounting has been announced by Leland James, president of ATA.

Argon Metal Arc Welding

Union Carbide has developed a new welding method which uses argon gas to shield the consumable filler metal electrode and the welding area. Many advantages are claimed by the manufacturer over systems using other gases, including no flux, no spatter, low operating costs, and high quality of weld. Stationary and portable models are available.

Silicone Polish Remover

A silicone polish remover for use prior to repainting of silicone-coated cars is announced by Speco, Inc., Cleveland, Ohio. The remover is sprayed or painted on, or may be applied by hand. The surface is then wiped free of all silicone-based polishes, according to the manufacturer, as this type polish cannot be painted over.

(TURN TO PAGE 168, PLEASE)



Touring cars with high tonneaus and gleaming brass radiators were the latest in automotive styling when the TUNG-SOL "Tulite" was first introduced. Then, as now, TUNG-SOL Lamps were made under the strict manufacturing policy, "make the best that can be made."

Today, TUNG-SOL's "Quality Control" Department makes this policy a mathematical certainty, in the manufacture of an up-to-date line of automotive lamps. Entirely independent of manufacturing, Quality Control employs modern statistical methods to make certain that every all-glass sealed beam headlamp and every miniature lamp conforms to the light output specifications—the life standards—and the production requirements of the automotive industry.

TUNG-SOL LAMP WORKS INC., Newark 4, N. J., Sales Offices: Atlanta, Chicago, Dallas, Denver, Detroit, Los Angeles, Newark, Philadelphia.

Five plants devoted to the engineering and manufacturing of electron tubes, signal flashers, auto lamps—and nothing else.

NEW
1914 MODEL

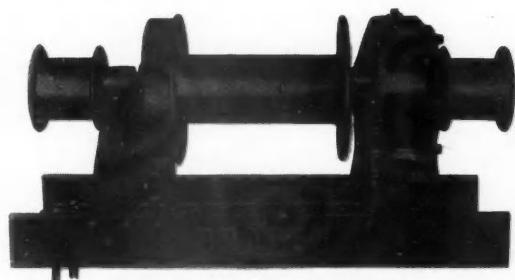
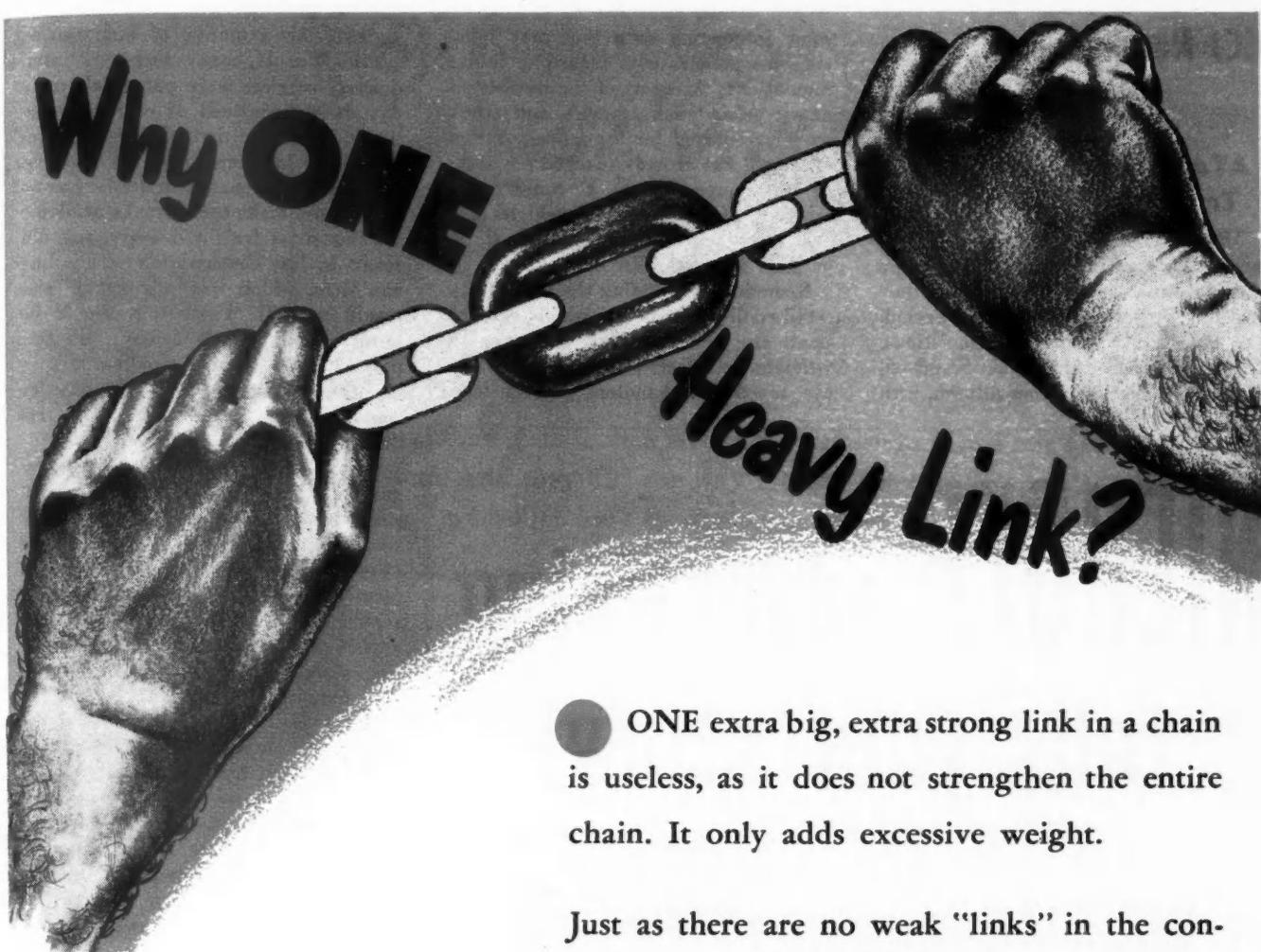
•
Complete with
ELECTRIC
LIGHTS!



BRIGHTER LIGHT FOR BETTER SIGHT FOR SAFER DRIVING



"There is absolutely NO wasted motion expended in this garage."



MODEL M30-20B

Safe working load: 60,000 lbs. Equipped
with the OIL-COOLED, FULLY ADJUSTABLE,
AUTOMATIC SAFETY BRAKE

ONE extra big, extra strong link in a chain
is useless, as it does not strengthen the entire
chain. It only adds excessive weight.

Just as there are no weak "links" in the construction of BRADEN Winches, so there are no big, bulky "links" to add useless weight. Every BRADEN part is designed to do a specific job in relation to all other parts. No part is larger or heavier than is necessary to do the job for which it was designed.

Balanced Design = More Truck Pay Load

BUY BRADEN—They are Safer

BRADEN WINCH COMPANY
Post Office Box 1709



BWA-14

COMMERCIAL CAR JOURNAL, January, 1951

CCJ News Report

Continued from Page 166

ATA Reports to DTA on Trucking Requirements

IN a statement of the equipment needs for freight transportation by civilian owned trucking equipment during the Defense Preparedness Period, the American Trucking Associations, Inc., has provided James K. Knudson, of Defense Transportation Admin., with

some interesting data that may influence his policies with regard to future regulations. A report of the number of new trucks, truck tractors and truck trailers required for the transportation of freight has already reached his desk. In this presentation a conservative schedule of materials and vehicles has been provided the department. Here, in part, is what ATA outlined:

Reducing or stopping the use of city retail delivery trucks, which are of small size and for retail deliveries to ultimate consumer, will not enable their use as efficient handlers of industrial

freight. As a matter of fact, during World War II, many such city retail delivery services were put on alternate day delivery instead of every day delivery, and these limited delivery practices have been continued by business concerns. This change in delivery practice did not make these trucks available for industrial freight delivery, but did result in less consumption of gasoline and tires, which was a desirable end result in itself. Further, it should be born in mind that because of this limited retail delivery practice still in use, there remains less opportunity for similar vehicle use restrictions at this time.

While similar situations exist in regard to other types of vehicles and services, the Nation still needs all available vehicles in its defense program. The approximately 2.5 million trucks in farm use are needed for their present service. Even though there may be reductions in the amount of construction work, and trucks for this service are not useful as freight carriers, nevertheless, such trucks would be needed for clearing away rubble, etc., resulting from bombing or other damage. Also, in cases of emergency, the smaller trucks would be most useful in relief, damage repair, and civilian relocation work, and can be handled by women drivers.

On the basis of the above evidence, we think that it is obvious the truck fleet for all types of services must be kept intact and serviceable. True, as a result of the Defense Program, there may result a reduction of delivery needs in certain services, but the vehicles so displaced will be few and they should not be scrapped but kept as standby vehicles for their specific services.

It is more likely, however, that there will be an increased demand for transportation by truck in several fields. This will follow the trend that has been evident since 1946. The population is increasing, there will be greater agricultural productivity, and there will be greater industrial productivity even though it will be of a changed nature. Further, there already has been considerable decentralization of industrial plants, and as part of the defense program, even more decentralization is planned. As evidence of the extent and trend of this industrial decentralization we quote from an article by L. A. Johnson in the January, 1949, issue of the magazine, "Trains." The author had evidently given a lot of study to decentralization, and apparently had been urging the short-line railroads to cash in on the trend without much success. The following is from the article, "Forty-six per cent of new industrial plants installed between May, 1945, and

(TURN TO PAGE 192, PLEASE)

NIEHOFF advertising tells your story!

Here are the points made in Niehoff consumer advertising:

- 1 Your service is reliable, convenient, efficient and economical.
- 2 You can service any make of car with Niehoff ignition parts.
- 3 You can install Niehoff warranteed ignition parts.

For further details ask your jobber.



FREE BOOKLET Tells all about compact SS-5 Service Stock plan illustrated above, and how to cash in on Niehoff big advertising campaign. Mailed free on request.

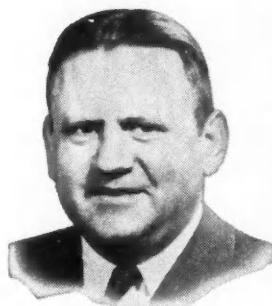
C. E. NIEHOFF & CO.

4933 LAWRENCE AVE., CHICAGO 30, ILL.

BRANCHES: BOSTON 34, Massachusetts, 254 Brighton Avenue,
LOS ANGELES 15, California, 1330 West Olympic Boulevard,
NEW YORK 19, New York, 250 West 54th Street

NIEHOFF Warranteed Ignition

FROM A MANAGEMENT VIEWPOINT . . .



MR. F. O. TERRILL, General Manager of Warehousing & Transportation, The Kroger Company, operates 1,600 trucks and trailers on runs totaling 30 million miles a year.

DULUX PAYS OFF IN GOOD APPEARANCE

General managers know the value of good advertising. They realize that a truck with a smart, well-groomed finish tends to form a favorable impression in the public's mind. That's why so many general managers have a strong preference for Du Pont DULUX Enamel. And they like the way DULUX holds its handsome color and gloss through long service on the road.



THE MAINTENANCE DEPARTMENT LOOKS AT IT THIS WAY . . .

DULUX PAYS OFF IN LOW MAINTENANCE COSTS

Superintendents of maintenance know that top-quality DULUX is unsurpassed in its resistance to damage from traffic gases, oils, bad weather and rough handling. They know, too, that the working characteristics of DULUX . . . its smooth, even flow and exceptional hiding powers . . . spell trouble-free, paint-shop performance. For them DULUX pays off in *more time on the road* and less time in the shop—lower day-to-day maintenance costs.

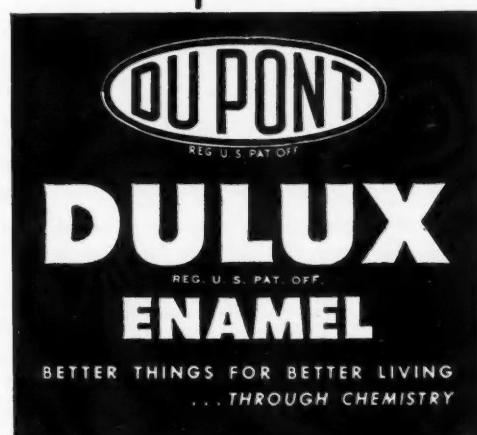
★ ★ ★

Good-looking trucks make good impressions wherever they go. Keep your fleet looking its best *all ways* with Du Pont DULUX Enamels.

E. I. du Pont de Nemours & Co. (Inc.),
Refinish Sales, Wilmington 98, Delaware.



MR. PAUL C. DREES, Superintendent of Maintenance, The Kroger Company. Mr. Dreess uses DULUX 93-20930 Gray and 93-24089 Blue on the Kroger fleet.



**Industry Has Specified
SILENT HOIST Equipment
• Since 1918 •**

KRANE KAR Swing Boom Mobile Crane: for materials-handling . . . lifting, transporting, positioning, gasoline or Diesel, 1½, 2½, 5 and 10 ton capacities, 9 to 37 ft. booms (or telescopic booms), solid or pneumatic tires. Self-stabilizing without jacks or outriggers; unobstructed vision; fast, flexible, safe, easy to operate.



WINCHES: Capstans; Single and Double Drum, Jaw Clutch, Keyed and Friction Clutch Winches. 2,000 to 50,000 lb. Capacities.

SWING BOOM CRANES: Truck: Motor Power Operated; high capacity; takes up only a small space. For handling transformers, cable reels, lamp posts, trees, poles, manhole castings, etc. 9 to 31 ft. booms; one to 10 ton capacities.



USERS: AT&T; N. Y. Tel. Co.; T.V.A.; Consolidated Edison Co.; W.U.; Municipalities throughout America.

WRITE FOR CATALOGS:
No. 79—KRANE KAR No. 70—Truck Equipment



CCJ News Report

Continued from Page 168

November, 1947, valued at \$100,000 or more, were built in cities, towns and villages of less than 50,000 populations. They totaled 960 plants. On the other hand, only 480 plants were built in cities of more than 50,000 population."

All of these things point to greater transportation by truck, with almost no opportunity to predict the few fields where there will be a lessened demand for transportation by truck. Under these circumstances, the only feasible and reasonable course at this time is to plan for complete maintenance of the present fleet of trucks, and to be ready for additions to the fleet in certain fields to a degree which can only be determined by truck owners' later judgments as the demand for transportation by truck develops during the emergency period.

Minimum Essential Program

To meet the above premises, a three-fold materials program is essential.

- Continued production of repair and replacement parts at present rate, and their distribution and sale to users in a free, unrestricted manner.

- Production of trucks and trailers for replacement of worn-out or damaged vehicles. During the preparedness period there will continue to be an attrition of vehicles from normal traffic and service causes. In case of attack on this country, the loss may be greater.

- Production of trucks and trailers for additions to the fleet to anticipate increased requirements of transportation by truck. Such increased requirements might arise from emergencies for civilian defense or for substitute transportation in place of damaged facilities. In advance of real emergencies, it should be made possible for carriers, wishing to do so, to augment their fleets in anticipation of needs.

One primary fact must be borne in mind regarding allocation of materials for items 1 and 2 above. This is that these requirements do not call for additional materials from the overall supplies of materials. The reason for this lies in the return of scrap materials to the metal producers. When a replacement part or a replacement vehicle is put in to service, a similar worn part or vehicle goes to the scrap yard and starts its way back to furnaces of the bulk metal producers for reuse. Admittedly, before the scrapped part or vehicle again appears as a new part or vehicle, there must be labor and machine time expended.

(TURN TO PAGE 194, PLEASE)

Be Sure

**ALL WINTER
THROUGH**

with

McKAY
MULTI-GRIP
TIRE CHAINS



*"Twice the
ROAD BITE"
HERE'S WHY*



1. TWO CASE HARDENED TRACTION BARS PER LINK.
2. 312 GRIPPING POINTS PER CHAIN.
3. MORE SURFACE CONTACT THAN ANY DESIGN.



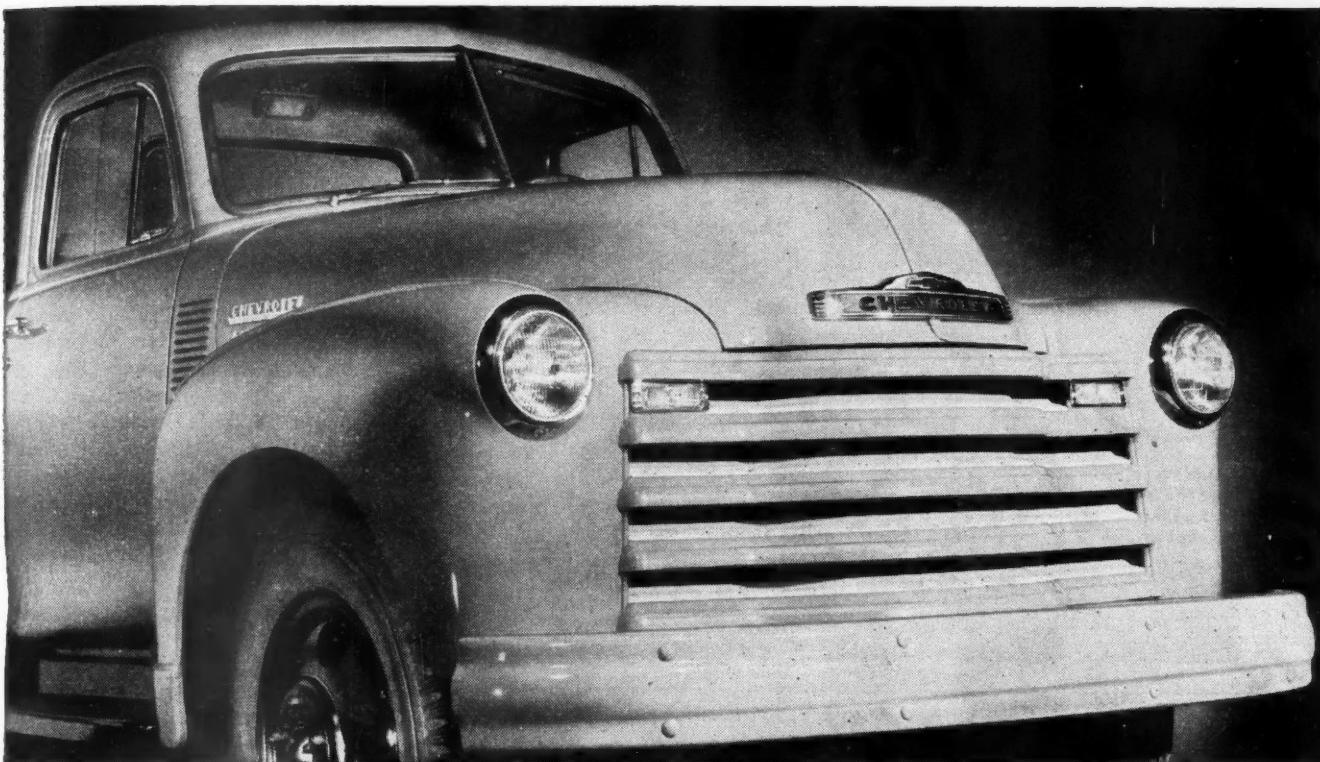
THE MCKAY COMPANY

465 MCKAY BUILDING • PITTSBURGH 22, PA.

OTHER MCKAY PRODUCTS

- McKay Metal-Fil
- Mild and Stainless Welding Electrodes
- Industrial and Commercial Chain

NEW 1951 CHEVROLET ADVANCE- DESIGN TRUCKS



New FEATURES! New QUALITY! New VALUE!

You'll find everything in these new 1951 Chevrolet trucks—everything that has made Chevrolet the world's most popular make *plus* new features and improvements that put them still farther ahead of the field. As a truck user, you'll welcome Chevrolet's new, better designed brakes for their increased effectiveness . . . their thrifty long life and extra safety! You'll recognize important

contributions to trucking in Chevrolet's Dual-Shoe parking brake, the new Ventipanes, and Chevrolet's new cab seats . . . the very tops for riding comfort! See your Chevrolet dealer and take a good look at these 1951 Chevrolet trucks at your first opportunity. The "best in the business" are better than ever today! Chevrolet Motor Division, General Motors Corp., Detroit 2, Mich.

CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

TWO GREAT VALVE-IN-HEAD ENGINES—the 105-h.p. Loadmaster or the 92-h.p. Thriftmaster—to give you greater power per gallon, lower cost per load • POWER-JET CARBURETOR—for smooth, quick acceleration response • DIAPHRAGM SPRING CLUTCH—for easy-action engagement • SYNCHRO-MESH TRANSMISSIONS—for fast, smooth

shifting • HYPOID REAR AXLES—for dependability and long life • NEW TORQUE-ACTION BRAKES—for light-duty models • PROVED DEPENDABLE DOUBLE-ARTICULATED BRAKES—for medium-duty models • NEW TWIN-ACTION REAR BRAKES—for heavy-duty models • NEW DUAL-SHOE PARKING BRAKE—for greater holding ability on heavy-duty

models • NEW CAB SEATS—for complete riding comfort • NEW VENTIPANES—for improved cab ventilation • WIDE-BASE WHEELS—for increased tire mileage • BALL-TYPE STEERING—for easier handling • UNIT-DESIGN BODIES—for greater load protection • ADVANCE-DESIGN STYLING—for increased comfort and modern appearance.



BANISH WINTER CHAIN WOES!

HEAVY-DUTY

CHAIN REPAIR TOOL

for all sizes — all makes

HKP PORTER
LINKMASTER

See your jobber NOW and end winter chain headaches!

ESSENTIAL EQUIPMENT for FLEETS, GARAGES, TIRE SHOPS, SERVICE STATIONS

Fix any tire chain "standing up" with the fast, efficient LINKMASTER . . . from large heavy truck chains (to $1\frac{1}{2}$ " diam. links) down to smallest car chains. No more luging heavy chains to work-bench. Chain is laid out on floor; links are removed and replaced in seconds. Fully portable . . . as efficient on the road as in the shop.

For light truck chains (to $\frac{5}{16}$ ") and all passenger car chains, LINKSEM is a rugged, lightweight tool of amazing power but low cost! Also LINKFIX for passenger car chains and a complete line of Porter Chain Cutters for hard chain.

H. K. PORTER, INC. Somerville 43, Mass.
Porter Cutters Porter Pruners
PORTER-FERGUSON Autobody and Fender Repair Tools

Keep this POISON Out of Your Engine Crankcases!

There's one place where water is pure poison . . . in the lube oil of truck and bus engines! No matter what kind of lube oil you use, accumulations of condensed water in the oil are bound to cause sludge and varnish formation. "Lugging," "Lead Foot on the Accelerator," hills, stop-and-go service . . . all these factors put such a load on your oil that where water accumulates you are certain to get plenty of sludge. And you don't have to be told what this costs in poor engine lubrication and frequent overhauls.



MAGNUS METAFFIN

is a sure antidote to this poisonous water. It keeps condensed water finely dispersed through the body of the oil where it is readily and dependably evaporated through the breather pipes. No water accumulation—no sludge. Only a little Metaffin is needed. You simply treat all lube oils regularly with this safe, dependable material to keep all engines operating at the peak of efficiency, properly lubricated at all times, and requiring far less frequent overhauls to correct sludge damage.

Write for the Magnus Metaffin Bulletin #23.

MAGNUS CHEMICAL CO. • 38 South Ave., Garwood, N. J.
In Canada — Magnus Chemicals, Ltd., Montreal.
Service representatives in principal cities.



MAGNUS
CLEANERS • EQUIPMENT • METHODS

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Replacement Parts

To the extent that repair and maintenance shops presently use new repair parts, the use of new parts is the most efficient practice. There appear to be many salvage repair techniques for reconditioning used parts. All of these methods which are economically feasible are in current use. In other words, if a part can be reconditioned satisfactorily at a lower cost than the price of a new part, that now is being done by truck owners in the normal conduct of their business.

During World War II, several unwise salvage practices were fostered, which produced unsatisfactory service results and cost more than the price of a new manufactured part. This increased cost represented almost entirely unwise use of skilled manpower and did not save material. These uneconomical and inefficient improvisations have disappeared from repair and maintenance practices since the last war, and should not again be foisted upon the trucking industry.

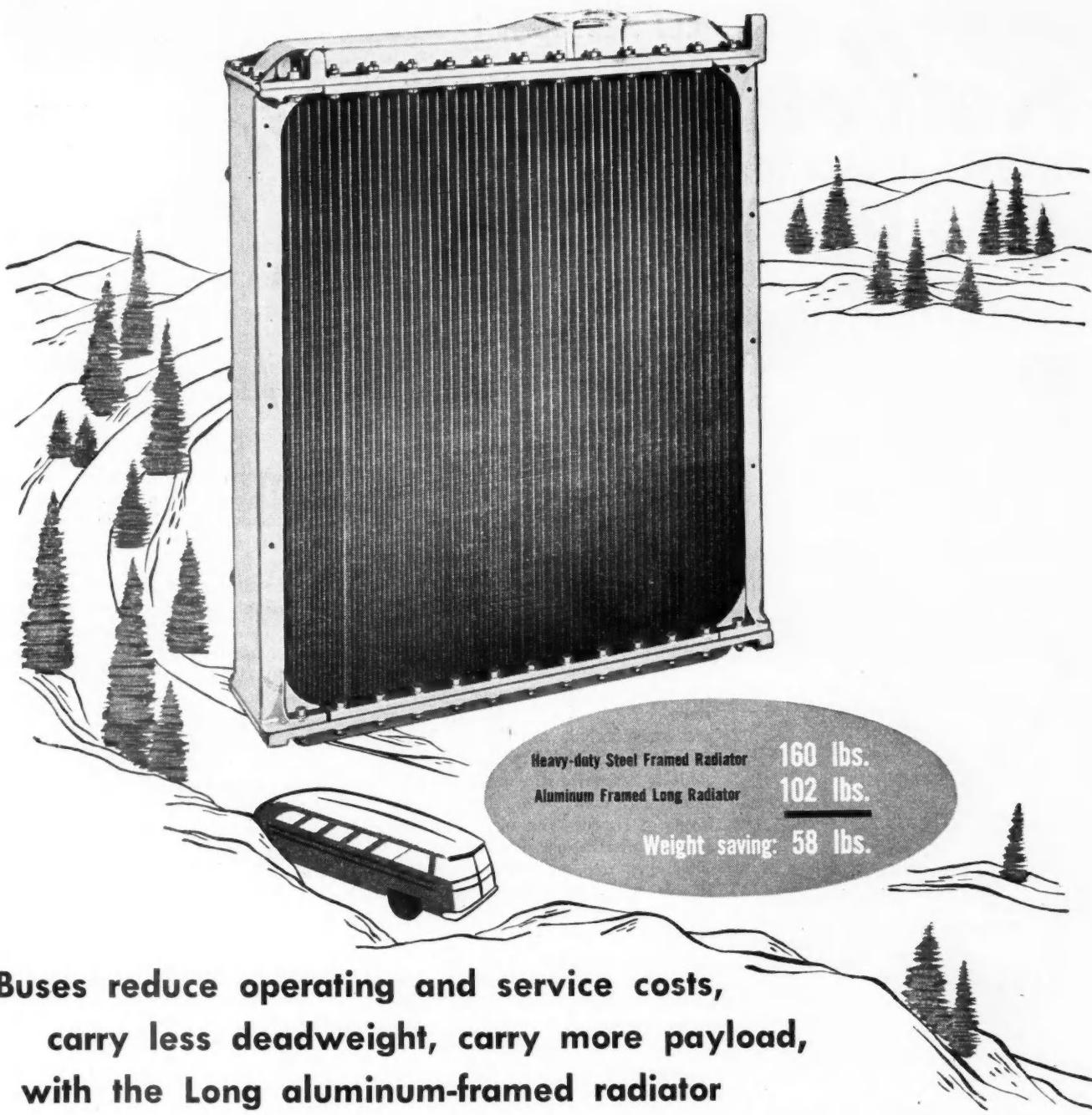
The best way to prevent deterioration of usable vehicles in the Nation's truck fleet is to provide for an ample and unrestricted flow of replacement parts in accord with the requirements of the repair and maintenance shops. They will not be extravagant, and if the supply is made adequate, there will be no hoarding of parts, which would cause a withdrawal of materials from the scrap, remelt, and manufacture cycle that is the present economical system.

In regard to the quantities and types of materials which must be allocated to the manufacture of essential repair and replacement parts and components, we, as users, do not have estimates or bills of material, and do not have means of accurately making such estimates. These estimates and bills of material, if needed in detail, must come from the production and sales records of the truck and trailer manufacturers, and the parts manufacturers, relating to the present manufacture and distribution of new replacement parts and components.

Replacement Materials

It is generally recognized that there is a normal attrition of vehicles, and that such useless vehicles must be replaced if the Nation's truck fleet is to be kept at even an equal size, in relation to the fleet now in essential, useful work. Automotive vehicles do wear out

(TURN TO PAGE 196, PLEASE)



**Buses reduce operating and service costs,
carry less deadweight, carry more payload,
with the Long aluminum-framed radiator**

This entire radiator frame—upper and lower tanks and the sides—is made of aluminum, cutting weight over 36%. It is easier to service. It involves no change elsewhere in the cooling system and it stands up under heavy-duty bus operating conditions. Since 1903 we have been specialists in the design and production of balanced cooling systems for internal combustion engines.

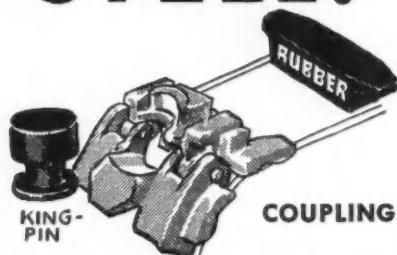


**LONG MANUFACTURING DIVISION
BORG-WARNER CORPORATION**

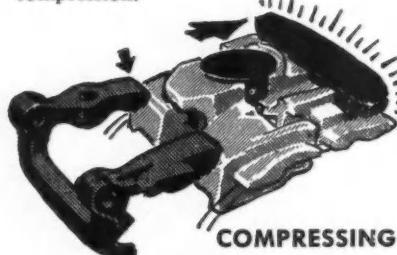


**DETROIT 12, and
WINDSOR, ONT.**

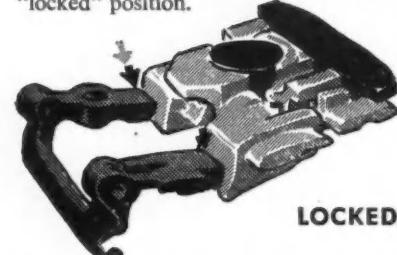
Rubber INSURES A GRIP OF STEEL!



King-pin is about to enter the hinged jaws which, in turn, are forced back against the rubber block to build up jaw compression.



Coupling action builds up a compression of 3000 pounds before rear jaw clears the lock and allows it to snap down into "locked" position.



Coupler jaws are now firmly gripped, under compression—an exclusive ASF feature. Compression coupling eliminates slack; reduces 5th wheel and king-pin maintenance to a minimum.

Write for Folder!

AMERICAN STEEL FOUNDRIES
Automotive Division
400 N. MICHIGAN AVE., CHICAGO 11, ILL.



CCJ News Report

Continued from Page 194

and become so decrepit that complete replacement is the most efficient procedure in terms of skilled mechanics' time, materials and service rendered. To further complicate this matter is the fact that there are various degrees of decrepitude depending upon the service rendered. For example, a vehicle which may become generally untrustworthy for a severe service operation, may still be useful in a short distance or less severe service.

In regard to carriers using medium and heavy class vehicles, we have surveyed the fields of private and for-hire carriers predominantly engaged in highway freight transportation by truck. These carriers use city delivery freight van trucks of the medium class, and heavy or heavy-heavy class trucks, tractors and trailers. These carriers were asked for their planned purchases of vehicles for replacement vehicles through the year 1951. Their figures represent their replacement practices since the end of the last war and are not exaggerated, in our opinion. It must be recognized that highway freight vehicles normally run more miles in a month than many of the trucks in other forms of services run in a year. Average annual mileages of 150,000 to 180,000 miles are not uncommon, while 100,000 miles per year is very common practice.

In regard to the other classes of truck transportation services and vehicles, especially with regard to light trucks, a similar pattern of service life exists, but the periods of wearout may be different. Some vehicles may need retirement earlier than freight vehicles, while others may have longer lives. We doubt if there is any user group which can accurately evaluate this usage. There are overall statistical data regarding the total registration of new vehicles and the disappearance of worn-out vehicles which can be used to estimate this flow and need of vehicles. We can make estimates based on such data, but have not done so in this report, since we think the production and sales data of the vehicles manufacturers, as well as their planned production scheduled based on market analysis and proposed assignment of facilities to military productions, can more accurately portray this light truck requirement. Material estimates for these units also must come from vehicle manufacturers.

In regard to the expansion of the Nation's truck fleet, one must indeed try to look into the crystal ball to esti-

mate the degree of expansion that will be necessary, since there is little doubt that there will be a need for expansion of the fleet.

It would appear to be wise forethought to build up the highway freight truck fleet as soon as possible to the maximum number possible within the financial structure of the motor carriers. The total need may not be foreseeable at this time, but as the demand arises carriers will be found to risk capital in additional vehicles. Hence, we believe that planning should contemplate and permit the manufacture of highway transport vehicles for an expansion of the number of available and useful vehicles.

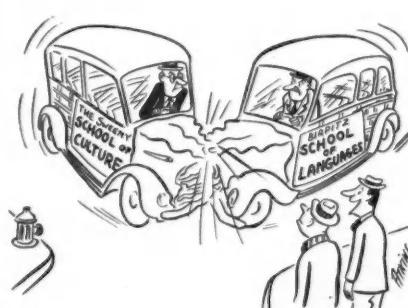
Tire Requirements

Our survey of truck users' needs included questions and reports about tire requirements. During the years since the start of World War II, the motor carriers have learned much about the conservation of tires. This has been increasingly necessary as tire costs have risen. In general, larger-sized tires are now in use than was the case previous to 1940. Also, rayon cord casings have come into large manufacture. Such larger tires give much longer life and result in casings with worn-off treads which can be recapped satisfactorily to a degree not possible previously. Tire recappings now is a normal practice, with a number of carriers owning their own recapping plants.

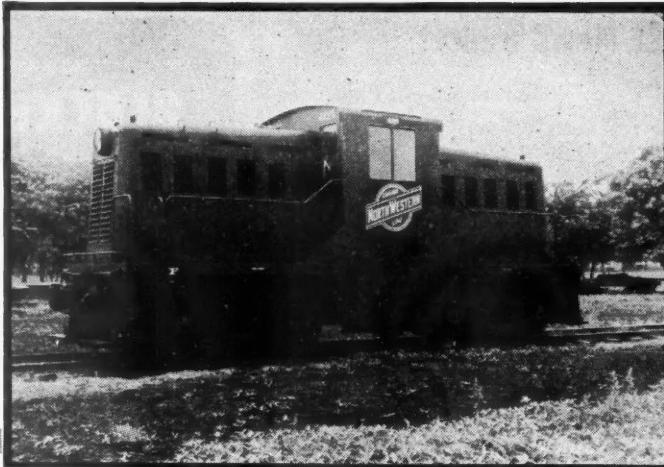
Construction Requirements

Transportation of freight by motor truck requires not only vehicles and highways but freight terminals and repair and maintenance shops. Transportation by truck has been growing and is still growing, so that there is a need for both new buildings and expansion of old structures by the motor freight carriers. Our survey of equipment needs asked for estimates of proposed new construction planned for 1951. Such facilities have a relation to the number

(TURN TO PAGE 198, PLEASE)



"Stick around, this is gonna be good."



Where the going is tough
the clutch must stand up.
That's why these heavy-duty
units choose Lipe Clutches.

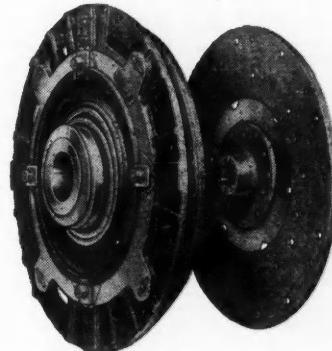
MORE ENGAGEMENTS BETWEEN TEARDOWNS

**NO SHOCK! NO GRAB!
NO COCKED PLATES!**

Lipe MULTI-LEVER HEAVY DUTY CLUTCH

The Lipe multi-lever Clutch gives more engagements between teardowns. There's no grab, no shock. Strain on engine and drive-line is reduced, tire mileage increased.

Here's the reason: *There's only one spring.* Spring pressure is distributed uniformly around the full 360° perimeter of the pressure plate by 20 pressure-equalizing levers. Every part of the pressure plate touches at the same instant . . . with the same pressure. *There's no cocking of the plate.* No areas of high-speed slippage and localized burning. Circulated air keeps internal temperatures low. The clutch engages smoothly . . . requires no babying . . . holds without slippage in final engagement . . . disengages with light pedal pressure.



FLEET OWNERS

Fast, easy adjustment assures torque capacity for the full life of the friction material. No special tools required. Quick service on parts. Write for complete data on genuine Lipe parts stocked in principal cities.



Lipe - ROLLWAY CORPORATION

Syracuse 1, N. Y.

BETTER SIGHT
BY DAY or NIGHT



LAMPS & MIRRORS

YANKEE METAL PRODUCTS CORP.
NORWALK, CONN.

Permalux
FINER DECALCOMANIA

FIRST IN { APPEARANCE
ECONOMY
DURABILITY
Made With DuPont "DULUX"
Write Today for details

THE PERMALUX COMPANY
500 Rathbone Ave. • Aurora, Ill.

THE COMPLETE LINE
that
Completely Satisfies

Since 1906

The
Fitzgerald Mfg. Co.
Torrington, Connecticut



Fitzgerald
GASKETS

FRINK
SNO-PLOWS

Both "V" TYPE and
ONE WAY BLADE TYPE
hand or power hydraulic control
FOR ALL MOTOR TRUCKS
FROM 1½ to 10 TONS

FRINK SNO-PLOWS, INC., CLAYTON, 1000 ISL, N.Y.
DAVENPORT-BESLER CORP., DAVENPORT, IOWA
FRINK SNO-PLOWS OF CAN. LTD., TORONTO, ONT.

For better traction
Use **CLAW**
Double-Duty
TRUCK CHAINS
Columbus McKinnon Chain
Corporation
TONAWANDA, N.Y.

CCJ News Report

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of vehicles used, and we believe that the estimates reported are quite conservative. By no means did all of the carriers report a need for new buildings, indicating that their facilities were adequate for their present business, but many gave dollar-value estimates of their needs.

Based on figures from carriers the annual replacement rate for straight trucks is 13.2 per cent for intercity for-hire carriers, 17.3 per cent for intercity private carriers and 11.6 per cent for local for-hire carriers. The replacement rate for tractors is 19.1 per cent for intercity for-hire carriers, 21.3 per cent for intercity private carriers and 11.8 per cent for local carriers. The figures yield an average life of 7.6 years, 5.7 years and 8.6 years for straight trucks of intercity for-hire, intercity private and local for-hire carriers, respectively. For tractors, the average life figures are 5.2 years, 4.7 years and 8.5 years for these carriers in the order named above.

It is estimated that there will be about 8,300,000 civilian-owned trucks and truck tractors registered in the country as of December 31, 1950, made up of 4,814,000 light, 3,030,000 medium and 456,000 heavy power units.

Intercity for-hire carriers, common and contract, including owner operators will own 456,000 of this total, intercity private carriers will own 419,

(TURN TO PAGE 200, PLEASE)

"finest of the fine"—
FOR HEAVY DUTY
WOLF'S HEAD
MOTOR OIL AND LUBES
100% PURE PENNSYLVANIA
Member,
Penn. Grade Crude Oil
Association

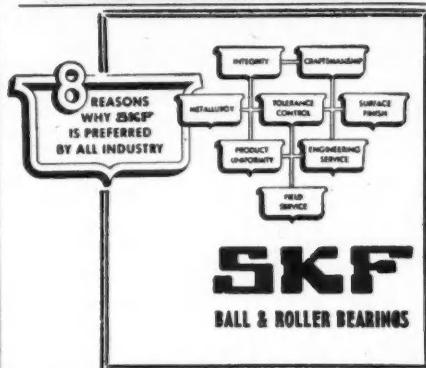
Cut your costs per mile with
BLUE STREAK
Ignition



STANDARD MOTOR PRODUCTS, INC.
37-18 Northern Blvd., Long Island City 1, N.Y.

BANK ON
BLACKHAWK
FOR
HYDRAULIC JACKS

the leading line
... most complete!
BLACKHAWK MFG. CO.
MILWAUKEE 1, WIS.



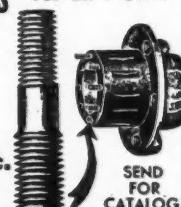
PUROLATOR
Micronic
OIL FILTER
Filters more abrasives . . . faster!

OVERSIZE
REAR WHEEL STUDS for all Trucks

Order from Your Jobber



CHAMP-ITEMS, Inc.
6191 Maple Ave.
St. Louis 14, Mo.



WAUKESHA
ENGINES

DIESEL
GASOLINE
BUTANE

ALL LIQUID OR GASEOUS FUELS